

**CONDUCTING A
FERC ENVIRONMENTAL ASSESSMENT:
A CASE STUDY AND
RECOMMENDATIONS FROM THE
TERROR LAKE PROJECT**

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CONDUCTING A FERC ENVIRONMENTAL ASSESSMENT:
A CASE STUDY AND RECOMMENDATIONS FROM
THE TERROR LAKE PROJECT

by

Stewart W. Olive
and
Berton L. Lamb
Cooperative Instream Flow Service Group
Western Energy and Land Use Team
U.S. Fish and Wildlife Service
2627 Redwing Road
Fort Collins, CO 80526

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Western Energy and Land Use Team
Division of Biological Services
Research and Development
Fish and Wildlife Service
U.S. Department of the Interior
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PREFACE

Work on this project was undertaken as an attempt to demonstrate the viability of negotiated settlements of environmentally disruptive projects. Too often developers and conservation agencies see proposed projects as win-lose situations where adversaries are pitted against one another until one side is soundly defeated. In fact, this is very often not the case. Even when an opponent is defeated, the loser is never driven from the game. Rather, the same players are involved in many projects over a long period of time. Even on the same project, discussions, arguments, and appeals may extend for decades. No one loses all the time, no one is ultimately beaten. Conversely, no one is completely victorious.

Unfortunately, many developers and environmentalists believe that these struggles over water and land development projects are inevitably adversarial. They tend to use the analogy of the courtroom or an athletic contest to describe the environmental assessment of development projects. The Terror Lake project demonstrates that this need not be the case. Certainly, the values expressed by the various parties in this negotiation were strongly felt. Just as certainly, some values cannot be compromised. One lawyer has observed that "there are times when you just cannot negotiate, because there are things in the world that are non-negotiable" (Northern Rockies Action Group 1980). But the negotiators in the Terror Lake Project found enough common ground and a sufficient currency in trust and technology to allow the resolution of many difficult problems.

The license issued for this project is an excellent example of what can be accomplished through negotiation. Of course, not all negotiations are successful. In spite of this, the potential for high-quality results make interagency bargaining an attractive option.

Research on this project was conducted through extensive personal interviews with those who participated in the negotiations. In addition, the records of all involved agencies were compiled by the researchers, and an exhaustive review was made of these documents. To prepare the final analysis, the authors relied on research literature on negotiations and experience gained in project negotiations.

The original data collection, interviews, and research design for this report were completed by Mr. Olive. He established the information base upon which the report was written and prepared extensive chronological research notes. These notes are the basis for the text of the paper. Mr. Olive and Dr. Lamb worked together to generate the recommendations. Dr. Lamb served as

the project officer for this effort, wrote the formal drafts of the report, edited the manuscript, and incorporated reviewer comments.

Reviewer comments on this report have been extensive. More than 20 persons reviewed each of 3 drafts. Each of these reviewers provided important substantive comments, which led to a vastly improved report. The authors firmly believe that this interactive approach to preparing the report has been invaluable.

The report has a fairly straightforward outline. In the Introduction, the reader is provided with a brief overview of the project, its history, and a summary of the recommendations. The Background chapter gives a more extensive review of the factors and events antecedent to the negotiations. This includes a quick survey of legislation, political factors, and the FERC hearings process. The History chapter details the events, motives, and actions of the parties who were involved in this long negotiation. The authors recognize that no matter how detailed a history is presented, there is ample room for error in presenting facts and events. Because of the extensive review process there is, however, confidence that the history is quite accurate. It is especially noteworthy that the history chapter received the most attention from the reviewers. Much of this attention has reflected differences of perceptions about the meaning (and even timing) of events. These continuing differences manifest the vital importance of full, open communications in any negotiation. The authors have tried to reflect the varied perceptions in the narrative.

After the history, a Summary of Strategies is offered. This is not a list of recommendations. Rather, it is the authors' attempt to distill, from the history, the bargaining strategies of each party. This may help the reader in the important task of diagnosing similar negotiations. Such diagnosis should lead to more effective action.

Finally, the authors make a number of recommendations. These are based on an analysis of the negotiation literature and on the lessons which can be learned from the Terror Lake Project negotiations. These recommendations have been reviewed by a number of experts on negotiations who are outside the Federal establishment. Their comments have been supportive and helpful. Even so, the authors urge both creativity and caution in implementing these recommendations.

One conclusion which seems to rise above all others in this report is that open communications are essential. Open communications mean both open listening and open speaking. The most successful negotiators seem to be those who can empathize with those expressing other points of view and clearly express their own needs and values. Moreover, these negotiators go beyond making a good point. They carefully observe and interpret the reaction of other parties. Negotiation based on these kinds of interactions has a greater chance for success.

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INTRODUCTION

Over the past several years the Cooperative Instream Flow Service Group¹ has prepared case studies which detail efforts to protect instream uses of water in four States.² These instream uses refer to the water as it flows in a stream for navigation, recreation, aesthetics, water quality maintenance, and fish and wildlife habitat. The earlier case studies concentrated on State programs for protecting instream uses of water (See, for example, Sweetman 1980).

Unlike those reports, this paper is an account of the process that evolved during acquisition of the license to operate the Terror Lake hydroelectric power project under the auspices of the Federal Energy Regulatory Commission (FERC). The Commission is responsible for granting these licenses under the Federal Power Act (16 U.S.C. 792 et seq.). This act provides, in part, that FERC may condition a license to protect the public interest. The public interest in these cases has come to include both instream and terrestrial values.

The Terror River is located on Kodiak Island in Alaska. The river is within the Kodiak National Wildlife Refuge; it supports excellent runs of several species of Pacific Salmon which are both commercially important and a prime source of nutrition for the Kodiak brown bear. The river is also a prime resource for generating electric power. As with any FERC license, there were many issues involved in the Terror Lake Project other than instream uses of water. For example, one major concern in the negotiations was the impact of land disturbance and management practices on brown bear habitat--i.e., protection of the brown bear. Maintenance of the the bears' habitat is the main purpose of the Kodiak National Wildlife Refuge. But, like many other projects, resolving the instream flow issue was of major importance in the issuance of the FERC license.

¹Western Energy and Land Use Team, Division of Biological Services, Research and Development, Fish and wildlife Service, U.S. Department of the Interior.

²These States are Montana (Sweetman 1980), California (Olive 1981a), Idaho (Olive 1981b), and Iowa (Olive 1983).

This paper discusses the fish and wildlife questions, but concentrates on instream uses and how protection of these uses was decided. With this as a focus, the paper explains the FERC process, gives a history of the Terror Lake Project, and, ultimately, makes recommendations for improved management of controversies within the context of the FERC licensing procedures.

Many individuals were involved in the negotiations which resulted in the issuance of the license at Terror Lake. The success of the process actually depended on them. Their skill and dedication ensured a fruitfully negotiated settlement of the disputes which are inherent in any proceeding as complex as issuance of a FERC license. By explaining the experiences of the administrators and scientists who negotiated the terms which were finally included in the license, we are able to suggest prescriptions for the handling of future project negotiations. These prescriptions are intended as a general guide to those involved in other FERC license applications.

TERROR LAKE HYDROELECTRIC PROJECT: A BRIEF OVERVIEW

1964

The Kodiak Electric Association (KEA) obtained a preliminary permit from the Federal Power Commission (FPC) to investigate the project for 3 years.

1967

The KEA completed an application for an FPC license; however, no financing was forthcoming. During this year, the Fish and Wildlife Service (FWS) did field work and obtained some stream flow data on Terror River. The preliminary permit expired.

1974

As economic potential appeared more favorable, the KEA filed an application for a new preliminary permit; the FPC granted the permit in 1976.

1977

In late 1977, State of Alaska funds were provided to the KEA to perform studies under the terms of the 1976 FPC permit. The KEA's consultant contacted the FWS regional office in Anchorage and the Alaska Department of Fish and Game (ADF&G) for the preparation of a study to determine the effects of the project.

1978

In April of 1978 the FWS provided copies of a plan of study to the ADF&G and the National Marine Fisheries Service (NMFS) for comment. In late 1978 the FWS was requested to review and comment on materials provided by the KEA's consultant--to be used in preparation of exhibits supporting their application for a FERC license.

1979

The KEA filed an application for a license on 23 January 1979. FERC did not accept the application on the basis that certain exhibits were incomplete and inadequate--especially Exhibit S, the portion of the application which describes project impacts on fish and wildlife resources (Robinson 1983). FERC's letter to the KEA of 16 April 1979 outlined the deficiencies of the exhibits and requested additional information.

In February of 1979 the FWS Alaska Regional Director had sent a letter to the KEA informing them that the proposed project was incompatible with the management objectives of the Kodiak National Wildlife Refuge. The Kodiak National Wildlife Refuge had been established in 1941 to preserve the Kodiak brown bear and its habitat. The Compatibility Assessment Report (CAR), which described the extent of incompatibility, was released 31 May 1979. The formal denial of compatibility was made on 1 June 1979.

On 11 June 1979, the KEA's attorneys filed a notice of appeal on the unfavorable decisions with the Director of the FWS under FWS regulations (50 cfr 29.22). The appeal asked for reversal of the compatibility decision and an opportunity to gather the environmental information necessary to support the project's feasibility.

On 14 June 1979, the FWS Division of Refuge Management in Washington, DC recommended to the Director of the FWS that he uphold the incompatibility finding.

Despite this recommendation, on 21 June 1979, the Director of the FWS instructed the Alaska Regional Director to respond to the KEA's appeal and issue the necessary permits to allow studies to support the appeal. The studies were necessary for the KEA to develop the technical data to complete filing with the FERC.

The permits to enter the Refuge to obtain data for the KEA's engineering feasibility studies were issued by the FWS, with special conditions to protect the Refuge, on 3 July 1979; the permit term was to run from 3 July 1979 until 30 September 1979.

The Secretary of the Interior filed a petition to intervene in the Terror Lake FERC proceedings on 10 July 1979. The petition to intervene was based on Department of the Interior responsibilities for administration of the Refuge; protection of historical and recreational resources; and mandates of the Fish and Wildlife Coordination Act, Federal Land Policy Management Act, and the Alaska Native Claims Act (Robinson 1983). On 12 July 1979, FERC requested agency comments on the KEA's application for a license.

An amendment to the FWS permit was issued by the FWS on July 3rd that allowed the KEA to begin biological studies on 23 July 1979. This was to allow the KEA to gather additional data for its appeal for feasibility studies.

In part because internal FWS activities (i.e., management of the Refuge and intervention on the license application) appeared to be in conflict, FERC staff held a meeting in the City of Kodiak on 13 August 1979 to discuss the

proposed project and agency responsibilities. It was at this meeting that the FWS's dual responsibility was first explained: one division of the FWS acted as Refuge manager, with regulatory authority, and another division was a cooperating agency in reviewing environmental assessments and recommending a mitigation plan for the project.

FWS comments on the KEA's license application, requested by FERC on 12 July 1979, were forwarded to FERC staff by the Secretary's Office on 12 September 1979; in this letter the Secretary of the Interior detailed the dual responsibility regarding fish and wildlife and habitat impacts on and off Refuge lands.

On 12 November 1979, the KEA provided supplemental information to FERC. On the basis of the inadequacy of the environmental information presented in this supplemental filing, FERC required additional environmental studies to obtain more site-specific data for inclusion in the EIS.

1980

In December of 1979, FERC announced a scoping meeting to be held in Washington, DC on 22 January 1980. Attached to the meeting notice was FERC's Notice of Intent to draft the EIS for the Terror Lake Project.

On 22 January 1980, FERC held a meeting in Washington, DC to determine the scope of issues to be addressed in the EIS. The Department of the Interior, Office of the Solicitor, made a request to FERC to be a cooperating agency in the preparation of the EIS. At this meeting the FWS assisted FERC and the KEA in identifying existing deficiencies in the fish and wildlife data base for the Terror Lake license application.

The FWS and KEA then met on 23 January 1980 in the FWS Director's office to discuss the project. FWS staff identified environmental studies and mitigation measures that were believed necessary to minimize impacts on bears, and which needed to be included in the EIS. The FWS was advised by the KEA's lawyers that the KEA believed the Federal Power Act gave FERC the authority to license the project within the Refuge even over the objections of the Interior Department.

On 13 February 1980, a working session in Alaska between the KEA and the FWS identified data gaps and additional environmental studies that were needed. The next day, a conference call involving FWS personnel in Washington, DC and Alaska was made regarding the latter's inability to reconcile the seemingly contradictory roles of cooperating agency under FERC licensing procedures, and refuge manager.

FERC granted intervenor status to the State of Alaska in the Terror Lake project on 21 March 1980. Later (on 28 April) the Interior Department provided comments to FERC relative to FWS cooperating agency status, and the development and preparation of an EIS. The Interior Department advised FERC that an EIS was premature based on the inadequacies of the Environmental Exhibits in the license application, and identified additional studies that were needed. Regardless of this advice, FERC allowed the EIS preparation to continue.

FERC gave notice to all parties on 30 April 1980 of additional needed studies and solicited comments as to the completeness of the list; the deadline for comments was set as 20 May 1980, and specific studies identified pertained to bears, goats, raptors, intragravel water temperature studies, instream flows, and fish. The FWS met with the KEA and other interested parties on 28 May 1980, to discuss the final plan of study.

The spring, summer and fall of 1980 were dedicated to the KEA conducting the studies, under a contract to the Arctic Environmental Information and Data Center (AEIDC). The studies were completed, except those on fisheries, in the fall of 1980, with full cooperation and some assistance from the FWS. FERC requested comments on these studies by the end of February 1981. Results of the fisheries studies became available in February 1981, and the final instream flow report was published in March 1981.

The Alaska National Interest Lands Conservation Act [16 U.S.C. 3101-3233 (1980)] was signed into law on 2 December 1980. This Act was believed by the Department of the Interior to resolve the issue of which agency, Interior or FERC, had authority to decide the Terror Lake Project siting question. Section 1325 of the Act states that the permissibility of such development shall be determined by the Secretary of the Interior on a case-by-case basis under existing law. This issue was a major question in the project negotiations (Azarro 1983).

1981

On 19 January 1981, the FWS Regional Director submitted a proposed mitigation scheme for Terror Lake to the Director of the FWS for review. Comments from the Washington office of FWS were hand-carried to Alaska the weekend of 31 January 1981. The mitigation proposal was sent by the FWS Regional Director to the KEA indicating that the items identified had the effect of making the proposed project compatible [50 CFR 29.29-7(c)]. The mitigation proposal included completion of special studies on land and water habitat.

On 2 February 1981, in a conversation with FERC staff, the FWS and the other Cooperators learned that all relevant studies had to be completed and commented on by 1 March 1981, as the release date for the Draft Environmental Impact Statement (DEIS) was the end of March. Consequently, results of the Habitat Evaluation Procedures (HEP), and Instream Flow Incremental Methodology (IFIM) were issued in March and April 1981, respectively. Then, on 17 March 1981, the Sierra Club, National Wildlife Federation, and National Audubon Society filed a petition to intervene in the project. The petition was granted on 28 September 1981. This allowed the nongovernment environmental organizations to formally comment on the DEIS.

An agreement between the FWS, the KEA, and other parties was signed on 16 June 1981, and submitted to FERC on 28 July 1981. On 9 September 1981, the KEA filed an Executed Offer of Settlement with FERC (dated 16 June 1981). The agreement made formal the final EIS which had been completed in early summer, and allowed issuance of a license.

FERC issued a license for the project on 5 October 1981 (17 FERC 61,026).

1982

The license to operate the project was transferred to the Alaska Power Authority (APA) from the KEA on 12 May 1982.

SUMMARY

As the overview demonstrates, there were many complex steps involved in negotiations over the FERC license for the Terror Lake Project. The analysis which follows is an attempt to reconstruct the events which constituted this negotiation, and to offer some prescriptions for future action when agencies face a FERC licensing or re-licensing process.

Based on the authors' research, five major conclusions can be drawn from the experience at Terror Lake. While there are many other tactical and organizational steps which might be taken, these stand out as important lessons. First, it is good advice in any negotiation for all the parties--especially the principals--to keep a journal to record understandings, agreements, timetables, and other milestones. This was not done on the Terror Lake Project, and even at this writing there is some disagreement over some details.

Second, intra-agency issues can be a significant factor in inter-agency negotiations. The tendency to see each faction (either an agency or a group of individuals) as a unified entity seems to encumber many FERC negotiations. Many applicants for a FERC license have no sense of existing agency divisions or dynamics. Agencies also fail to understand the needs of applicants. This means that the parties to negotiations are often mystified by an agency's stance on issues. Based on the author's research, the Terror Lake negotiators had fewer problems with this than most, but it was still a significant barrier to effective bargaining.

Third, the need to monitor agreements has been widely acknowledged in the literature on negotiations. While there is no sure solution to this problem, it is essential that monitoring be a part of a FERC license negotiation at those points where agreement has been reached on specific performance.

Fourth, FERC staff has been involved in mediating these conflicts. This job is especially difficult for two reasons: 1) As the workload of the staff has increased the kind of intimate interactions evident on Terror Lake may not be possible on future projects; and 2) it is almost impossible for FERC staff to mediate a dispute when FERC will ultimately be in an arbitrator role. This latent arbitration mission sometimes encourages an adversary atmosphere which makes real bargaining difficult. In short, negotiated solutions, in the future, will depend more on efforts of the parties.

Fifth, the parties to any FERC license proceeding face uncertain and draconian solutions if they allow decisions to be made by distant agencies and commissions. The best resolution comes from the more decentralized units concerned with the project. In the Terror Lake case, the parties worked for an Alaska solution. By working it out on their home ground the parties prevented much uncertainty and facilitated FERC's decision.

BACKGROUND TO THE TERROR LAKE PROJECT

Many of the unusual circumstances surrounding the Terror Lake case may be unique to Alaska. Two examples are the recent large-scale change in land ownership in the State, and the fact that the proposed project area is within a National Wildlife Refuge. However, the question that arises is: What lessons from the Terror Lake experience may be applicable to other projects which must be licensed by the Federal Energy Regulatory Commission? While the Terror Lake case is unique, the tactics, strategies and negotiations that accompanied the licensing of the project are applicable to many other situations.

The Terror Lake case is not an ideal project. In fact, the project was marked by controversy and complexity which frequently caused emotions to run high. Terror Lake was chosen as the example for this paper because, in spite of the complexity and controversy, an agreement was negotiated which, while not the most desirable to any one participant, satisfied all the parties. The application is unique; each has a special character which makes conflict an ever-present ingredient. The fact that Terror Lake was not ideal gives hope for success to other project negotiations. The conflicts over many license applications are resolved in lawsuits, but Terror Lake was resolved through compromise.

The history of this project fits the definition of a successful negotiation: i.e., an agreement where all parties both give and receive concessions (White et al. 1980). In the Terror Lake case there were no absolute winners or losers; instead, through good faith bargaining, the parties reached an agreement that avoided costly and time-consuming FERC administrative hearings which would have produced winners and losers.

FERC PROCESS

The hydroelectric licensing process at FERC occurs in two phases. During the first phase (normally under a preliminary permit) the potential developer generates the information necessary to prepare an application for a license. The submission of an application for a license, the review of that application by FERC, and the decision on whether or not to grant a license constitutes the second phase.

Potential developers apply for a preliminary permit which, if granted, reserves (during the period of the permit) a site which is under study. During the term of the preliminary permit, the permittee performs the necessary

engineering and environmental studies in consultation with Federal and State resource agencies. These studies determine the feasibility of development. The results of these studies constitute the information required by FERC regulations to be included in any license application which may be filed. Draft applications, which include the environmental study results, are submitted by the applicant to Federal and State resource agencies for review and comment. Developers use these comments to complete the application before it is submitted to FERC.

Applications for licenses are reviewed first by FERC staff to determine compliance with program regulations. These include ensuring that the applicant has adequately consulted with the resource agencies during the development of studies, and after the preparation of the draft application. If the application for a license is accepted by FERC, the developer is instructed to make the final application available to the resource agencies. These agencies then have a period of time, not less than 45 days, during which they may formally comment to FERC about a proposed license. FERC staff reviews all the available information, prepares appropriate documentation (satisfying NEPA, Endangered Species Act, and other authorities), and makes a recommendation to the Commission. The Commission decides whether or not to issue a license and what constraints or mitigation measures to impose on the developer.

Public and agency participation in the FERC hydroelectric licensing process is extensive. However, a more rigorous participatory avenue is available. Intervenor status may be applied for by individuals or agencies at any stage in the application process. Intervenor status, if granted, makes the individual or agency a formal party to the proceedings, with all the responsibilities and duties that this status entails. Basically, intervenors are assured that their concerns and positions will be addressed by FERC in any Commission action. If the applicant and reviewing agencies (or intervenors) are unable to agree on appropriate constraints or mitigation measures, the application process may culminate in formal hearings.

The FERC hearings process closely resembles litigation. As in litigation, all interested parties present their case, complete with formal testimony on facts and opinions, to FERC, which acts as the representative of the public interest. After the hearings, the facts presented are considered by the Commission, which decides whether or not to grant the license. A decision to grant the license may include any conditions that FERC deems appropriate. As a result, the license can have the effect of imposing conditions which none of the parties desires. Losers may pursue the issues in court, which increases uncertainty about the project. The best way to avoid this uncertainty, and maintain control of the proposed project's destiny, is to conduct good faith negotiations resulting in agreements based on consensus.³

³For a discussion of consensus in environmental negotiation see Harter 1982, Lee 1982, and White et al. 1980.

A HISTORY OF THE PROJECT

EARLY EFFORTS AND DESCRIPTION

Like so many of the projects that are currently being proposed for hydroelectric power generation, the Terror Lake project was first studied many years ago. The project area has been evaluated as far back as the 1930's. Significant proposals for development were made during the 1950's and 1960's (Kemppe1 1982).

The Kodiak Electric Association, a small rural electric cooperative serving the northern section of Kodiak Island, obtained a permit from the Federal Power Commission to investigate the possibilities for a hydroelectric project which would raise the natural level of Terror Lake. The KEA completed its first studies in 1967, and filed an application for an FPC license. Because of the lack of financing and the loss of a major potential market through the closure of the U.S. Navy base at Kodiak, the license application was withdrawn (Anonymous A; Wilson et al. 1979; Robinson 1983).

Since 1973, a significant rise in the cost of diesel fuel, which the KEA had depended on to power its generators, rekindled interest in the project. In 1974, the KEA applied for a preliminary permit from the FPC. The KEA proposed to place a dam at the outlet of Terror Lake, raising the level of the lake 143 feet and increasing the lake surface an additional 480 acres. The KEA proposed to develop a diversion tunnel 26,300 feet in length and 9 feet in diameter from the Terror Lake reservoir to a powerhouse located in the Kizhuyak River Basin. As the map (Fig. 1) illustrates, the project would also consist of dams and diversion works on Shotgun, Falls, and Rolling Rock Creeks in the Kizhuyak River Basin to divert water into the powerhouse. The Refuge boundary follows the divide between the Terror and Kizhuyak watersheds.

The proposal called for the powerhouse to be located on the western side of the Kizhuyak Valley approximately three miles upstream from the mouth of the Kizhuyak River. The powerhouse would include two 10,000-kilowatt generators, with the possibility of adding a third 10,000-kilowatt generator at a later date.⁴ The power would be transported through an 18 mile long, 69 kilovolt transmission line that would extend from the powerhouse to the KEA's planned substation on the U.S. Coast Guard Reservation near Kodiak. The route for the transmission line was selected so that it would provide dependable service even in the worst winter storm conditions (Wilson et al. 1979).

⁴As of this writing, the Alaska Power Authority has proposed building this third turbine.

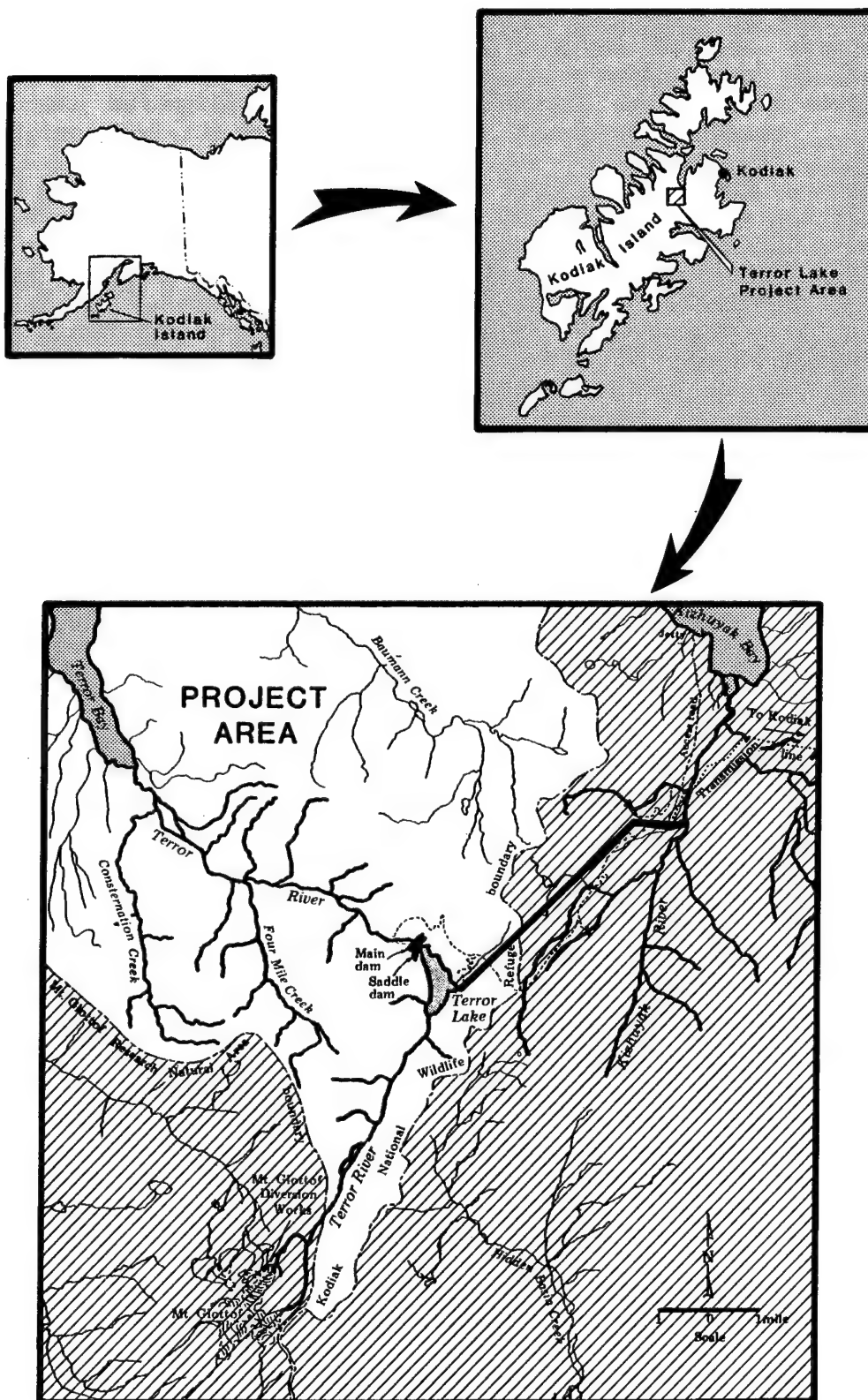


Figure 1. Project locations.

The project would divert an estimated 76,000 acre-feet of water per year from the Terror River Basin through the tunnel and powerhouse and into the Kizhuyak River Basin. The diversions from the three tributaries of the Kizhuyak River would pass an additional 54,000 acre-feet of water per year into the tunnel and through the powerhouse. The net result of these diversions would be a 35 percent reduction in flows in the Terror River and an increase in flows in the Kizhuyak River of 30 percent. Notable seasonal changes would be an increase in winter flows in the Terror River by 5 percent and in the Kizhuyak River by 300 percent.

LAND ISSUES

No real understanding of the Terror Lake licensing negotiation is possible without some background information on the complex, changeable status of the land administration and ownership on Kodiak Island. This complexity includes Federal Government, Native Alaskan, and private land ownership, land and wildlife management practices, and Federal statutes.

By far, the largest land administrator on Kodiak Island is the Federal Government. The vast majority of Federally administered lands on Kodiak Island are contained in the Kodiak National Wildlife Refuge. The Refuge was established by executive order, on 14 August 1941, by President Franklin D. Roosevelt, to preserve the feeding and breeding ground of the giant Kodiak bear and other wildlife [Exec. Order No. 8857; and Public Land Order No. 1634 (1959)]. The Refuge boundaries encompass all of Uganik Island, and the majority of Kodiak Island, with the exception of a one-mile strip of land around the edge of the island and the lands of the Karluk Reservation. The one-mile wide strip of land around Kodiak Island was made available for leasing and development under pertinent public land laws.

The resulting ranch development on the mile-wide strip produced conflict between the bears and cattle grazers. In an effort to separate the Refuge from the cattle grazers, the boundaries of the refuge were changed by executive order on 9 May 1958. The new order gave refuge status to the one-mile strip of land on the west side of the island, while the Shearwater and Kupreanof Peninsulas and other lands on the east side of the island were removed from the reserved status of the refuge and returned to the public domain (U.S. Fish and Wildlife Service 1979). The 1958 order reduced the Refuge from 1,900,000 acres to 1,815,000 acres, but the refuge remains under the administration of the U.S. Fish and Wildlife Service.

In 1964, Congress passed the Wilderness Act (16 USC 1131-111; PL 88-577). The Act calls for the review of all areas in the United States that are at least 5 miles from the nearest road, railroad, telephone lines, etc., for possible designation as Wilderness Areas. The Kodiak National Wildlife Refuge was studied for possible inclusion in the Wilderness system. Following a public hearing held on Kodiak Island, 97 percent of the Refuge was recommended by the FWS for designation as a wilderness. This proposal was held in abeyance due to Congress's passage of the Alaska Native Claims Settlement Act of 1971 (Morehouse 1982a).

The Alaska Native Claims Settlement Act (ANCSA) was passed by Congress to establish a permanent solution to the aboriginal land claims for all the Natives and Native groups in Alaska (PL 92-203). Key provisions of the Act detail the methods by which Native groups could select lands for appropriation from the public domain. The only lands exempted from these withdrawals were lands in the National Park System and those lands withdrawn or reserved for national defense purposes, other than Naval Petroleum Reserve Number 4. Each Native group was entitled to between 69,120 acres and 161,280 acres of land depending on the group's population. The Native groups could each appropriate up to 69,120 acres of land from inside the National Wildlife Refuge System.

On Kodiak Island there are 11 recognized Native groups organized into Village Corporations under ANCSA. The Native groups had three years from the date of enactment of ANCSA, 28 December 1972, to identify the lands that they had selected. At the time that the KEA had filed its preliminary permit in 1974, the Native groups together had chosen 300,000 acres inside the Refuge with the possibility of another 200,000 acres being selected (U.S. Fish and Wildlife Service 1979).

Other legislation affecting land ownership on Kodiak Island includes the Alaska Statehood Act of 1959 [PL 85-508 (1958)] and the Alaska National Interest Lands Conservation Act of 1980 (ANILCA) [PL 96-487 (1980) 16 U.S.C. 31d]. The Alaska Statehood Act provides at Section 6:

- (a) For the purposes of furthering the development of an expansion of communities, the State of Alaska is hereby granted and shall be entitled to select, within twenty-five years after the date of the admission of the State of Alaska into the Union, from lands within national forests in Alaska which are vacant and unappropriated at the time of their selection not to exceed four hundred thousand acres of land, and from the other public lands of the United States in Alaska which are vacant, unappropriated, and unreserved at the time of their selection not to exceed another four hundred thousand acres of land, all of which shall be adjacent to established communities or suitable for prospective community centers and recreational areas. Such lands shall be selected by the State of Alaska with the approval of the Secretary of Agriculture as to national forest lands and with the approval of the Secretary of the Interior as to other public lands: Provided, That nothing herein contained shall affect any valid existing claim, location, or entry under the laws of the United States, whether for homestead, mineral, right-of-way, or other purpose whatsoever, or shall affect the rights of any such owner, claimant, locator, or entryman to the full use and enjoyment of the land so occupied.
- (b) The State of Alaska, in addition to any other grants made in this section, is hereby granted and shall be entitled to select, within twenty-five years after the admission of Alaska into the Union, not to exceed one hundred and two million five hundred and fifty thousand acres from the public lands of the United State in Alaska which are vacant, unappropriated, and unreserved at the time of their selection: Provided, That nothing herein contained shall affect any valid existing claim,

location, or entry under the laws of the United States, whether for homestead, mineral, right-of-way, or other purpose whatsoever, or shall affect the rights of any such owner, claimant, locator, or entryman to the full use and enjoyment of the lands so occupied.

ANILCA was passed for the following purposes (Section 101):

- (a) In order to preserve for the benefit, use, education, and inspiration of present and future generations certain lands and waters in the State of Alaska that contain nationally significant natural, scenic, historic, archeological, geological, scientific, wilderness, cultural, recreational, and wildlife values, the units described in the following titles are hereby established.
- (b) It is the intent of Congress in this Act to preserve unrivaled scenic and geological values associated with natural landscapes; to provide for the maintenance of sound populations of, and habitat for, wildlife species of inestimable value to the citizens of Alaska and the Nation, including those species dependent on vast relatively undeveloped areas; to preserve in their natural state extensive unaltered arctic tundra, boreal forest, and coastal rainforest ecosystems; to protect the resources related to subsistence needs; to protect and preserve historic and archeological sites, rivers, and lands, and to preserve wilderness resource values and related recreational opportunities including but not limited to hiking, canoeing, fishing and sport hunting, within large arctic and subarctic wildlands and on freeflowing rivers; and to maintain opportunities for scientific research and undisturbed ecosystems.
- (c) It is further the intent and purpose of this Act consistent with management of fish and wildlife in accordance with recognized scientific principles and the purposes for which each conservation system unit is established, designated, or expanded by or pursuant to this Act, to provide the opportunity for rural residents engaged in a subsistence way of life to continue to do so.
- (d) This Act provides sufficient protection for the national interest in the scenic, natural, cultural and environmental values on the public lands in Alaska, and at the same time provides adequate opportunity for satisfaction of the economic and social needs of the State of Alaska and its people; accordingly, the designation and disposition of the public lands in Alaska pursuant to this Act are found to represent a proper balance between the reservation of national conservation system units and those public lands necessary and appropriate for more intensive use and disposition, and thus Congress believes that under the need for future legislation designating new conservation system units, new national conservation areas, or new national recreational areas, has been obviated thereby.

ANILCA provides for the designation and conservation of certain public lands in Alaska. The Act designates lands for National Parks, National Wildlife Refuges, National Forests, National Wild and Scenic Rivers, National Wilderness Reservation Systems, and for other purposes. The passage of ANILCA concluded a multi-year discussion on how much land, and for what purposes, would be withdrawn from the remaining public domain in Alaska. The amount of land reserved in National Wildlife Refuges was approximately 100,000,000 acres, or 156,000 square miles (Bayha 1982). The issues that surrounded the ANILCA legislative history had an impact on the Terror Lake project. For example, Section 1324 of ANILCA pertains directly to Terror Lake. It provides that:

Nothing in this Act or the National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd) shall be construed as necessarily prohibiting or mandating the construction of the Terror Lake Hydroelectric Project within the Kodiak National Wildlife Refuge. The permissibility of such development shall be determined by the Secretary on a case-by-case basis under existing law.

Section 1325 was added to ANILCA at the insistence of the Alaska Congressional Delegation (Horn 1982), which illustrates the level of concern over this project. ANILCA, along with other Federal land management activities and statutes--as well as private ownership patterns and native claims--had a direct impact on project decisions. The interpretation of pertinent statutes constituted the substance of much negotiation over project alternatives.

THE HISTORY: 1974-1978

Jurisdictional Questions

The KEA's application for a preliminary permit from the Federal Power Commission (FPC) in the spring of 1974 touched off jurisdictional questions between the FPC and the U.S. Department of the Interior. The FPC maintained that under the Federal Power Act it had sole authority to determine whether or not a preliminary permit would be issued for the study of a hydroelectric facility at Terror Lake (Martin 1982). The Bureau of Land Management (BLM) and the FWS submitted comments on the preliminary permit application to the Department Secretariat.

The BLM's comments centered around the lands issue brought up by ANCSA. The BLM pointed out that the proposed project was within the lands withdrawn by ANCSA and that the Village of Port Lions (located north of the mouth of the Terror River) had yet to make its land selections. Because of this, BLM recommended that the preliminary permit be withheld until the lands issue stabilized (Martin 1982).

The FWS's comments were directed to the fact that Terror Lake was within the boundaries of the Kodiak National Wildlife Refuge. As such, the FWS stated that the Refuge would be impacted by the proposed project and that the KEA would need a special use permit from the FWS (Martin 1982).

In coordinating those comments, the Department of the Interior (DOI) asserted jurisdiction over public lands in Alaska. The Department formally

opposed the project in comments to the FPC on 11 September 1974. The comments stated that:

...[W]e have completed our review of this permit application, especially as it relates to the various legislative mandates placed on this Department by the Congress. Of particular concern regarding the action in question is the potential for a conflict with the program now underway in Interior to carry out the objectives of the Alaska Native Claims Settlement Act (ANCSA), and we submit the following information for your consideration and use in processing this permit application.

Section 26 of ANCSA (65 Stat. 683) also states that the provisions of this Act shall apply when there is any conflict between it and any other Federal laws applicable to Alaska...

In summary, this Department has concluded, in light of the above citations, that only the Secretary of the Interior has jurisdiction to issue permits or licenses for the use of any public lands, except Forest Service lands, in Alaska withdrawn pursuant to Sections 11(1)(1) and (2) of ANCSA. The authority of the Federal Power Commission [now FERC] to issue permits or licenses for proposals on those public lands in Alaska has been withdrawn by this Congress. Accordingly, the Department of Interior not only opposes the issuance of a preliminary permit for this proposals but must also question the authority under which the Commission could take any position on this application.

Further complicating the jurisdictional question between the Department of Interior and the Federal Power Commission was Section 4(e) of the Federal Power Act. This Section states that the Commission is authorized and empowered to:

- (e) To issue licenses to citizens of the United States, or to any association of such citizens, or to any corporation organized under the laws of the United States or any State thereof, or to any State or municipality for the purpose of constructing, operating, and maintaining dams, water conduits, reservoirs, power houses, transmission lines, or other project works necessary or convenient for the development and improvement of navigation and for the development, transmission, and utilization of power across, along, from, or in any of the streams or other bodies of water over which Congress has jurisdiction under its authority to regulate commerce with foreign nations and among the several States, or upon any part of the public lands and reservations of the United States (including the Territories), or for the purpose of utilizing the surplus water or water power from any Government dam, except as herein provided: Provided, That licenses shall be issued within any reservation only after a finding by the Commission that the license will not interfere or be inconsistent with the purpose for which such reservation was created or acquired, and shall be subject to and contain such conditions as the Secretary of the department under whose supervision such reservation falls

shall deem necessary for the adequate protection and utilization of such reservation [footnote deleted]. [41 Stat. 10651066; 49 Stat. 840-841; 61 Stat. 501; 16 U.S.C. 797(e)].

FERC decided to rely on Section 4(f) of the Federal Power Act and issue the preliminary permit to the KEA on 9 September 1976. Section 4(f) states that a preliminary permit can be granted to applicants to secure the data necessary for a license.

Financing the Preliminary Study

A meeting was held on 17 November 1974, in Washington, DC, between staff from the DOI and the FPC concerning Terror Lake and another project. At this meeting, DOI staff expressed the opinion that the FPC had ignored Interior Department comments on the project by issuing the preliminary permit. DOI's staff noted that the FPC permit did not address the Secretary's jurisdiction over the right of entry onto the Federal lands that was required for investigation of the project. The FPC agreed to inform the KEA of its responsibilities to the DOI under the preliminary permit. The FPC also agreed to contact the BLM's Alaska State Director for a permit that would allow the KEA to enter Federal lands prior to the conveyance of lands to the Alaska Native Corporations. Shortly after the preliminary permit was issued (on 9 September 1976), the lead agency status within the Department of the Interior shifted from the BLM to the FWS (Martin 1982).

Under the FERC permit, the KEA began preparations to collect the data it needed to apply for a license. The KEA hired engineering consulting firms to study the feasibility of the proposed project, and the KEA contacted the FWS and the Alaska Department of Fish and Game (ADF&G) concerning the environmental studies required by the permit. The KEA and its engineering consultant, Retherford Associates, proposed that the FWS and the ADF&G be funded by the KEA to do the necessary environmental studies (Nease 1982). This was believed important in developing consensus on environmental data (Azzaro 1983).

The FWS agreed, by letter dated 28 October 1977, to submit a plan of study to the KEA by 18 November 1977. As FWS personnel prepared a plan of study, the KEA experienced a change in managers. The new manager for the KEA was David Nease. The FWS did not provide the plan of study to the KEA by the November 18th deadline (Anonymous A); but the KEA moved rapidly to pursue the available financing for engineering, environmental, and construction feasibility studies. In seeking funds for construction of the project, the KEA approached the Alaska Power Authority (APA), the Rural Electrification Administration (REA), and the Cooperative Finance Corporation (CFC).

With the completion of the Alaska Oil Pipeline, the State of Alaska began receiving large sums of money in the form of royalties for North slope oil. These funds far exceeded the State's normal operating budget, and the Legislature began to address new issues. One of these issues was the production of hydroelectric power. The Legislature enacted a program aimed at funding hydroelectric facilities in the State which included formation of the Alaska Power Authority in 1976. The KEA applied to the State, through the APA, for funding of the studies required by the FPC permit (Anonymous B). The KEA was granted the funds to perform the studies by the State in November 1977. The funds were to be repaid to the State only if the project proved not to be

feasible. The KEA's ability to raise funds for the studies from the State was fortunate since the normal funding source for rural electric cooperatives, the REA, does not lend money for preliminary permit studies (Kemppel 1982).

The fact that the State legislature made funds available for the study and construction of hydroelectric power facilities gives insight into the political interest inside Alaska directed toward natural resource policy--i.e., the Legislature hoped to develop hydroelectric power. Also, Governor Hammond's policies favored these developments, especially if it was feasible to build projects with minimum damage to the environment (Skogg 1982).

Fish and Wildlife Service Organization

In a letter of 12 December 1977, the ADF&G provided the FWS with comments on the FWS's draft plan of study for the environmental assessment of the project. The plan of study had not yet been forwarded to the KEA. Part of the reason for this is the fact that the FWS was experiencing communication problems among its various regional entities.⁵ While Division of Ecological Services (ES) staff at the FWS Regional Office in Anchorage were informed about the proposed project, and were active in formulating the plan of study, the Refuge staff members on Kodiak Island were not aware of the project (Vivion 1982). As a consequence, when the Refuge staff on Kodiak found out about the proposed access, their early reaction was one of surprise and disapproval. Refugees Division staff members at the Regional Office in Anchorage were also negative toward the project.

The reluctance of the Refuge's staff to accept the Terror Lake project was due, in part, to the special mission of the Refuges Division. Refuges is, basically, a land management organization. Each refuge is managed for the specific purpose(s) for which it was established. The Executive Order which established the Kodiak National Wildlife Refuge states that the purpose for which the refuge was established to preserve the natural feeding and breeding ground of the giant Kodiak brown bear and other wildlife. The statutes which govern the management of wildlife refuges describe the activities which are permissible on wildlife refuges. These statutes (16 USC 668 et seq.) state in part, that:

- (d) The Secretary is authorized, under such regulations as he may prescribe, to---
 - (1) permit the use of any area within the System for any purpose, including but not limited to hunting, fishing, public recreation and accommodations, and access whenever he determines that such uses are compatible

⁵During much of this time the Alaska headquarters of the FWS was officially an Area Office reporting to the Regional Director, Region 1, in Portland, Oregon; but because it operated semi-autonomously, and is now a Regional Office, it is referred to as a Regional Office throughout this paper.

with the major purposes for which such areas were established: Provided, That not to exceed 40 per centum at any one time of any area that has been, or hereafter may be acquired, reserved, or set apart as an inviolate sanctuary for migratory birds, under any law, proclamation, Executive Order, or public land order may be administered by the Secretary as an area within which the taking of migratory birds may be permitted under such regulations as he may prescribe; and

- (2) permit the use of, or grant easements in, over, across, upon, through, or under any areas within the System for purposes such as, but, not necessarily, limited to powerlines, telephone lines, canals, ditches, pipelines, and roads, including the construction, operation, and maintenance thereof, whenever he determines that such uses are compatible with the purposes for which these areas are established.

The question of whether or not the project would be "compatible" with the purposes for which the Refuge was established was a central point in the negotiations over the Terror Lake project. Indeed, there was sentiment in the Refuges Division at the Regional Office that the project was not compatible and thus should not be approved (Morehouse 1982a; Vivion 1982; Redfearn 1982). Refuges Division staff also believed that the project should not be considered for a license until Congress acted on the proposed wilderness designation. Finally, Refuge Division personnel were very concerned that the Terror Lake project would set a precedent for similar developments on other Refuges. There were two reasons for the concern over precedent. First, was the fact that Terror Lake would be the first major hydroelectric dam built on an existing wildlife refuge; second, was the fear that the "Energy Crisis mentality" would lead to more projects being built on refuges (Morehouse 1982a).

A major problem with initial FWS involvement in the Terror Lake Project was internal confusion as to which division had the lead role in assessing the project (Morehouse 1982a). Lands administered by the Refuges Division would be directly impacted by the project, and the Regional Office, through the Refuges Division, had responsibility under statutes and regulations to manage the lands for the protection of the refuge. At the same time, Ecological Services (ES) had the responsibility to review and assess FERC projects under the authority of the Fish and Wildlife Coordination Act (16 USC 662 et seq.). At Section 662, the Act states:

- (a) Consultations between agencies
Except as hereafter stated in subsection (h) of this section, whenever the waters of any stream or other body of water are proposed or authorized to be impounded, diverted, the channel deepened, or the stream or other body of water otherwise controlled or modified for any purpose whatever, including navigation and drainage, by any department or agency of the United States, or by any public or private agency under Federal permit or license, such department or agency shall first consult

with the United States Fish and Wildlife Service, Department of the Interior, and with the head of the agency exercising administration over the wildlife resources of the particular State wherein the impoundment, diversion, or other control facility is to be constructed, with a view to the conservation of wildlife resources by preventing loss of and damage to such resources as well as providing for the development and improvement thereof in connection with such water-resource development.

An important point is that the Coordination Act requires agencies to consult with the FWS, but it does not require the agencies to adopt the FWS's recommendations [Lake Erie Alliance v. Corps of Engineers, 18 E.R.C. 1050 (1983)].

Because the statutes and regulations with which ES is concerned are aimed at project impact analysis and consultation, ES's perspective regarding project analysis is different than that of the Refuges Division. For the Terror Lake project, Refuges believed that in as much as the National Wildlife Refuge System Administration Act contains compatibility language, the KEA had to receive FWS approval in order to build the project. ES viewed the FWS involvement in the project as a matter of making assessments and recommendations. These deliberations inside the FWS created frustration for the KEA. Depending on which Division the KEA asked for information and assistance it received different, and often conflicting, answers (Kemppel 1982). As time passed, the KEA continued to perform the feasibility studies required by the FPC Preliminary Permit, but without the requested advice of the FWS. On 1 November 1978, KEA's consultant, Retherford Associates, requested that the FWS review their Environmental Report and provide comments on project effects, potential enhancement, and mitigation measures (Anonymous B).

During much of this period, the FWS Alaska headquarters was undergoing major changes as it shifted officially from an Area Office supervised from the Portland, Oregon Regional Office to a full-fledged Regional Office, with new leadership in the person of a Regional Director. As 1978 drew to a close, the new Regional Office awaited appointment of its first Regional Director. During that time, Refuges made clear, through informal conversations with top Regional staff, its opinion that the project was incompatible with the purposes for which the Refuge had been established.

THE HISTORY: 1979

Winter

With the creation of the Department of Energy in 1977, the licensing functions of the Federal energy establishment underwent a reorganization. The Federal Power Commission was dissolved and in its place--with jurisdiction over licensing hydroelectric projects--was the Federal Energy Regulatory Commission (FERC). This new commission inherited responsibilities under the Federal Power Act, plus new statutes and amendments governing a range of hydro projects. For the Terror Lake project, FERC stands in the shoes of the FPC.

In early 1979, the KEA filed for a license with the Federal Energy Regulatory Commission without including comments from the FWS as required by FERC regulations (18 CFR 4.41). The decision was made for two basic reasons.

First, the KEA was concerned with inflation; the longer the project was delayed the higher the project cost. If the project was delayed long enough, the favorable benefit-cost ratio would be threatened (Nease 1982). Second, the KEA decided to apply for a license so that it could determine what information FERC would require (Kemppel 1982). In essence, the KEA's application was an attempt to keep the process moving in order to save time and money.

The FWS reacted to the KEA's license application by formulating a strategy for responding to the proposed project. The strategy was expressed in a memorandum from the Field Supervisor for the Western Alaska Ecological Services (WAES) office in Anchorage to the Regional Director in response to the KEA's request for comments. WAES is the field office, within the FWS (Division of Ecological Services), which responds to water projects under the FWCA and FPA in the geographical area of Kodiak Island. In the memorandum, dated 9 February 1979, it was recommended that:

...the following course of action should be taken to best document and support the final Service position on this proposed project.

1. WAES will take the lead in coordinating and formulating responses to be made by the Service in accordance with our Federal Power Act responsibilities.
2. WAES will prepare a letter to the Kodiak Electric Association, with a copy to Robert W. Retherford and Associates, informing them that the Terror Lake Hydroelectric project is in apparent conflict with the purpose for which the Refuge was established. The letter will state that we are studying the apparent conflict to determine its extent and that we will provide them with more specific information as it becomes available.
3. Refuges will study and document the extent of the conflict that the project would have with the purpose for which the Refuge was established.
4. Following completion of the Refuge study and documentation, WAES will prepare a letter to Retherford and Associates to more specifically represent the extent of the conflict between the proposed project and the function of the Refuge. This letter will not represent a final position of the Service on the project.
5. Following the receipt of a request for our comments upon the license application to the Federal Energy Regulatory Commission, or any associated EIS, the Service will respond based upon Refuges previous findings (Bowker 1982).

The FWS did send the KEA a letter, on 16 February 1979, detailing its plans to explain the incompatibility between the project and the Refuge. The letter further states that the KEA should do a "comprehensive analysis" of alternative methods of meeting Kodiak's electrical needs including conservation

measures, alternative energy sources, and hydroelectric sites not on refuge lands (Sowl 1979).

The position of Regional Director was filled during this time by Keith M. Schreiner. Schreiner decided to follow the strategy recommended by WAES, and, on March 21, appointed a six-member team to assess the compatibility and impacts of the project. Schreiner's initial reaction to the project may be characterized as unfavorable due to the possibility that the project would set a precedent for development on other refuges (Schreiner 1982).

At about the same time, the KEA retained the services of Art Kennedy as a political lobbyist and consultant on Government agency behavior. Kennedy's advice was not to fight the Government, but rather to ascertain ways to work with the Government to get needed tasks accomplished (Kennedy 1982). Schreiner and Kennedy had been acquainted before their respective moves to Alaska. Using his personal contacts and knowledge of operating procedures, Kennedy helped the KEA by effectively analyzing political aspects of the project and the involved agencies. As the FWS undertook its compatibility studies, Kennedy assessed potential FWS positions on the project, and he determined what he believed were the best options then available to the KEA.

A Summary of Early 1979

By April 1979 most of the individuals who would play key roles in this conflict resolution process were on the scene in Alaska. These included Keith Schreiner (FWS Regional Director), Dave Nease (General Manager of the KEA), Roger Kemppel (KEA, General Counsel), and Art Kennedy (consultant to KEA). These people, along with Keith Bayha as Assistant Regional Director for Environment (ARD-E) of the FWS, FWS field office staff, Anchorage Solicitor's Office (DOI), ADF&G, and FERC personnel, were responsible for the successful conclusion of the negotiations.

Schreiner decided to follow the very conservative course suggested by the WAES because he did not believe that the project would be built. Simply put, the precedent of building a hydro project on a refuge was perceived to be too great a step. While the FWS took this conservative approach, Dave Nease built a base of political power. In this more political process, Kennedy had connections and a perspective from his earlier work on Congressman Donald Young's staff. As a result, for each change in the project, Kennedy was well placed to understand both FWS behavior and the reaction of agencies and interest groups based in Washington, DC. Kennedy's contacts gave the KEA the means to bring the issues to the attention of both the Congressional delegation and the State Legislature, which the KEA did almost immediately.⁶ Thus, even at the

⁶The Principal Investigator for the instream flow studies adds this observation: "There was an enormous amount of dialogue at the staff level between KEA's consultants, State agencies, and intervenors which kept the ball rolling at that level as well" (Wilson 1983). Others recall that Nease seemed to be the chief strategist (Bayha 1983). Certainly Schriener provided expert leadership to FWS.

outset of this licensing negotiation there was a nexus of four facts: hydropower development was an important issue in Alaska; the Legislature was ready to spend "oil surplus" funds; Congressman Young was a proponent; and the FWS was ready to stand fast against setting a bad precedent. Hydropower's attraction for Alaska was that it allowed the State to export exhaustible fossil fuels while developing clean, renewable, and efficient industries and power sources at home. To the FWS, the Refuge was seen as a dwindling, delicate resource in need of protection.

Spring/Summer

The KEA was aware of the favorable disposition of the Legislature and the Alaska Congressional delegation, and they decided to push for approval of the Terror Lake project even though they had received the incompatibility statement from the FWS. At this point, Kennedy advised the KEA to proceed with the FERC license process instead of seeking Fish and Wildlife Service approval for construction on the refuge. One reason for this emphasis was confusion in the KEA about the position of the FWS.

Much of this confusion was well founded, because--at least until Schreiner was appointed--both ES and Refuges were separately working out their respective roles. Refuges had carried most of the responsibility to this point, but Schreiner decided to emphasize the role of ES (Schreiner 1982). This raised to the surface some turf battles within the Fish and Wildlife Service and caused some bruised feelings in Refuges (Schreiner 1982). But the "advocate system" of management worked well to bring issues to the decision-maker, and to clarify competing facts.⁷ In addition, the Terror Lake project was seen as the first of many similar battles that the FWS would face. Consequently, Schreiner used the struggles among his staff to establish the procedures for future projects. After FWS Regional Office personnel worked through this decision-making process, ES was given the lead within FWS. But in the meantime, many confusing signals were sent to the KEA. In short, the need to build standard operating procedures within the FWS Regional Office accounts for some early miscommunication.

Instream Uses Addressed

While these decisions were being made at the FWS, the KEA had approached FERC with informal results of the preliminary studies.⁸ For the first time, the KEA had addressed instream flow considerations. Their recommendations were

⁷An advocate system of management refers here to a management style which relies on competition among subordinates to raise issues and options to the decision-maker. Schreiner is widely recognized as skilled in this style of management.

⁸While consideration of the instream flow aspects actually began in 1979, the formal recommendation to at least consider results of the Tenant method was made in early 1980 (Wilson 1983).

based on the Tenant method.⁹ The FERC staff was skeptical of the recommendations and asked the KEA for further work based on additional instream flow considerations (Robinson 1982). Because not all the terrestrial impact issues had surfaced, the instream flow questions looked like the major stumbling block to this project. According to Mark Robinson (1982),¹⁰ FERC staff believed this was significant because it was the first license for a hydroelectric project that was held up for consideration of instream uses of water. The instream use issues revolved around anadromous fish passage and minimum flow needs for salmon spawning, egg incubation, and juvenile salmon rearing. The instream uses also included the fry and juvenile life stages of coho salmon and Dolly Varden trout (Wilson 1983). That is, the question was the scheduling (timing) and volume of water to be released from the project into the Terror or Kizhuyak Rivers.

FERC's Dilemma

FERC staff was caught in the middle. The Carter administration had a strong interest in resolving the conflict because of the energy crisis, the push toward sources of power other than fossil fuels, and the need to cut red tape. The staff's main interest and operating goal was to keep the project moving; if at all possible, FERC staff hoped to avoid hearings (Robinson 1982). In fact, the staff at the Commission expected major difficulties from the project. They wanted to demonstrate progress on the project, but at the same time ensure adequate consideration of public interest values in the environment.

The Compatibility Issue

At this stage, the parties faced two hurdles, either of which might have proven sufficient to stop the project. First, the instream flow question had to be addressed; and, second, the land use question--expressed in the compatibility issue--had to be resolved. While FERC staff wrestled with the instream

⁹The Tenant Method is a "rule of thumb" technique based on a percentage of average monthly flows. The method, developed by Donald Tenant of the FWS in Montana, is sometimes referred to as the Montana Method. Recommendations from the Tenant Method usually are expressed in two figures--for high and low flow times of the year. The reliability of these recommendations depends upon the consistency between the study streams and those where the method was developed; an adequate period of flow records; and on the expert opinion of the analyst. The analysts' recommendations must be based on an intimate knowledge of both the study stream and the original Montana streams for which the percentage generalization was made. Given these prerequisites, the recommendations can be calculated in the office based on historical flow records. Because the Tenant Method relies on the rule of thumb approach, it is impossible to predict--based on this technique--the impact on habitat or population of any incremental change in flows. For a discussion, see Stalnaker and Arnette (1976).

¹⁰J. Mark Robinson is an aquatic ecologist at FERC.

flow studies, the KEA moved to overcome what they believed to be inevitable: a ruling that the project was incompatible with the refuge. The point was simple: how do you know it is incompatible if you have not done the studies? The informal answer from the Regional Refuge staff was that the FWS would do a compatibility study and the KEA would not have to go onto the Refuge (Morehouse 1982a). The Regional Office of the FWS issued an incompatibility finding on 1 June 1979. This ruling was accompanied by a long report which detailed reasons why the project was incompatible with the refuge (Sowl 1979).

The KEA appealed to the Director of the Fish and Wildlife Service, Lynn Greenwalt. Director Greenwalt wired Schreiner, instructing him to issue the special use permit so that the KEA could do the studies. Concurrently, the KEA needed a permit from the State of Alaska to cross State lands in order to get to the Federal lands. At first, the State responded negatively, but the State legislative delegation from Kodiak supported the KEA and when the FWS position softened, the State agreed to allow access (Nease 1982). Director Greenwalt took no action on the ruling of incompatibility (Morehouse 1982a). Instead, he stated that the KEA should be allowed to do their studies in order to make a case for the appeal of the incompatibility ruling (Schreiner 1982; Morehouse 1982a).

FERC Staff as Mediator

While the FWS was compiling the compatibility report, the KEA received a request from FERC staff dated 16 April 1979, for supplemental information. In the context of this request the staff was exercising its required investigating and public interest functions, as well as performing a mediator role. Acting in this dual capacity, FERC requested several kinds of information: 1) population estimates of wildlife species based on census, project area, and area affected by project; 2) estimates of quantity and quality of wildlife habitat to be lost, and degree of species dependency; 3) information on the capability of the adjacent habitat to accommodate displaced existing wildlife both with and without implementation of the habitat improvement measures; 4) pertinent information on shock hazards to birds and preventive measures; and 5) a discussion of impacts on the Mt. Glotoff natural area.

FERC staff also requested supplementary fishery information: 1) cost and benefits of fishery mitigation including a hatchery; 2) entity responsible for building such a hatchery; 3) detailed description of the existing fishery; and 4) the effects of flow diversions. The KEA refiled their application on 21 May 1979, and included some of the information that was requested. In consultation with FERC staff, it was agreed that the KEA's new contractor, the Arctic Environmental Information and Data Center (AEIDC) would prepare a complete report by 30 September 1979.¹¹

¹¹The KEA had made an earlier request that the FWS conduct the studies. On the advice of the Office of the Solicitor, the Regional Director declined. FWS Regional staff recommended that the KEA hire experts to conduct studies including the Instream Flow Incremental Methodology (IFIM) and Habitat Evaluation Procedures (HEP). When the AEIDC was hired to do the studies, their experts chose to employ an IFIM analysis but not HEP (Bayha 1983). This illustrates some of the honest differences in expert judgement which may exist among negotiators (Trihey 1983).

FERC staff were trying to get agencies to actively cooperate in reviewing the project; they attempted both to keep the project moving and to get necessary information from the KEA and their consultants, principally the AEIDC (Crouse 1982). On 10 July 1979, the Department of the Interior formally filed as an intervenor in the project. All this led up to two important meetings on Kodiak Island on Tuesday, August 14 and Friday, August 17. At the more public meeting on Tuesday, the FWS representatives maintained the position that there would be no project (FERC 1979). They argued that because the FWS had judged the project to be incompatible, the Service was cooperating with the KEA by letting them onto the Refuge for the purpose of their appeal. At that first meeting, Robinson suggested use of the IFIM¹² to analyze the impact of diversions. In the discussions which followed (FERC 1979), Nease of the KEA and Wilson of the AEIDC agreed to do instream flow studies using the Incremental Methodology.¹³ It was understood at that time that the new instream flow studies would delay completion of the field studies for one more year, in essence putting off the license application (FERC 1979). Even after these meetings the Fish and Wildlife Service Regional Office staff opposed the project and believed it would be judged by the Director to be incompatible with the Refuge (Morehouse 1982a).

Fall 1979

Once again, the FERC staff were caught in the middle. FERC staff established a goal of maintaining communication among all parties and putting enough pressure on everybody so that adequate studies would be done (Azzaro 1982). The idea was to achieve some degree of progress by employing two different kinds of pressures for resolving the conflicts: 1) the KEA used political pressure to keep things moving; and 2) the KEA used the uncertain outcome of the FERC hearings to motivate the parties to continue to communicate and to complete the appropriate studies.

¹²This method was developed by the FWS's Cooperative Instream Flow Service Group based on earlier work done by a number of researchers. It involves the use of computer technology to simulate the effects on habitat of unmeasured flows. Based on the measurement of at least three actual flow levels the method allows prediction of habitat values for other unmeasured flows. This technique is an aid to negotiation because the analyst can explain the impact of altered flows on fish habitat (See Bovee, 1982).

¹³According to Wilson (1983), Robinson suggested the use of the IFIM at the August 1979 meetings, but even though formal conversation continued, it was not until the Washington, DC meeting of January 1980 that informal agreement was reached to conduct an IFIM study. Wilson states: "In fact, this particular scoping meeting [January 1980], and an informal technical follow-up meeting with FERC staff the next day, was to me the turning point in the instream flow issue" (Wilson 1983). Wilson points out that he and David Nease of the KEA had lengthy discussions of various methodologies during the January meeting; the result was agreement on IFIM. This led to a formal study plan.

Richard Azzaro¹⁴ reports that FERC staff felt that the project was close to requiring a full-scale administrative hearing. If this had happened, the FWS stood to lose a great deal, perhaps not receiving any mitigation, while the KEA could lose time and money with construction delayed 2 to 3 years. In a period of inflation, the passage of time would probably have increased the cost of the project beyond reason if the KEA insisted on a hearing (Azzaro 1982). Thus, it was crucial to emphasize the possibility that either side could lose in the hearings, and to stress the uncertainty of a long, expensive, legal battle (Azzaro 1983). Apparently, FERC staff made these uncertainties clear to all parties and "jawboned" to hold the negotiations together.

Especially useful in this regard was the experience on the earlier "Storm King" project where the proceedings dragged on for 19 years (Azzaro 1983). The threat of litigation-type proceedings is often sufficient to force a negotiation (White et al. 1980). Azzaro and others took an active role in explaining the possible outcomes of a legal battle. By moving toward consensus and compromise, all parties were served. FERC staff demonstrated that negotiations could work, the KEA saw progress and avoided uncertainty, and the FWS maintained leverage without unacceptable losses.

As noted above, one of the major sticking-points at early meetings was the conflict between the Interior Department (represented by the FWS) and FERC staff over who had the right to issue permits. Both sides had statutory grounds for claiming the lead role. Interior believed that it would have the final say because of the Refuge, while FERC staff argued that its authority took precedence. The KEA was frustrated by this interagency squabble. They saw themselves trying to be reasonable; trying to get everything together. The KEA, however, increased the tension at these meetings by bringing in local political support. That support included the KEA's constituency in the community of Port Lions. The issue of the rights and treatment of this village became very important later on when the Port Lions community nearly forced the project into formal hearings after agreements had been reached.¹⁵

The Key to Instream Uses

The key to protection of instream uses was not, initially, the Fish and Wildlife Service's main concern--the Service had an overriding concern for the bears on the Refuge. Rather, FERC staff interest in this question and the increased evidence of potential damage to the fishery resource made instream flows a primary concern for all parties. As a consequence of this, FERC and FWS worked to reconcile the methodological differences between the Tenant Method and IFIM.

¹⁴Richard Azzaro is Staff Counsel at FERC.

¹⁵A Port Lions community physician brought up the question of the project's impact on the community. Also at issue was the delivery of electrical power to Port Lions which had been relying on expensive diesel generation.

The KEA understood FERC staff concern and agreed to do studies on instream flows for fish, as well as habitat studies for bears. It was the FERC staff, not the Fish and Wildlife Service, which pushed to use the IFIM (Robinson 1982). After Mark Robinson talked with FWS staff about the appropriate methodology to use in a hydropower project, he decided that a technology (IFIM) was available which would resolve the questions commonly raised in negotiations over hydropower projects. The question which poses a major stumbling block in many negotiations is: What effect will incremental changes in flow have on fish habitat? These are the questions the IFIM is designed to answer. Based on this need, the FERC staff and the KEA agreed at the August meeting to conduct an IFIM study. But the FERC staff suggested that the AEIDC issue their original report for comments in November 1979. This report reiterated the earlier recommendations based on the Tenant Method (See footnote 6).

The AEIDC's report also said that there were further needs for studies including: 1) instream flow studies; 2) river sediment study to be done by consulting engineers; and 3) terrestrial habitat studies for bears.

The key to the success of the IFIM in helping to solve instream flow questions relating to the Terror Lake project lies in the fact that after the August meeting all the parties were kept informed about what to expect from the IFIM. Nease, KEA's General Manager, accepted the instream flow approach, but his attorney was very concerned about using the IFIM because it was a Fish and Wildlife Service product, and because data would be analyzed through Fish and Wildlife Service computers (Kemppel 1982).¹⁶ To alleviate this concern, AEIDC staff was diligent in keeping all the parties informed about study design, expected progress, and results.¹⁷ Individuals, such as E. W. Trihey and Jean Baldrige of AEIDC, Norval Netch of the FWS, and later Keith Bayha of the FWS, were vital in explaining the method. This was very important because with this knowledge Nease and others became advocates for the methodology.

¹⁶Actually, research and development of the IFIM was a multidisciplinary, interagency effort. Software packages and training on the use of the IFIM are available to any interested party.

¹⁷Wilson reports that at this point firm agreements had not been reached. It was not until the January 1980 meetings in Washington, DC that a decision was made on the instream flow methodology. He states: "To correctly summarize those events, on 22 January a technical scoping session was convened by FERC in Washington, DC. On 23 January 1980, a follow-up technical session, informal in nature, on the IFIM was conducted between KEA, various agencies, and FERC staff. On 14 February 1980, another session was held in Anchorage at which time AEIDC and KEA agreed to proceed with a study plan to implement a IFIM study for the Terror Lake project" (Wilson 1983). While there is some disagreement among the participants as to the exact date when they agreed to use the IFIM, the important lesson from this part of the negotiation is that open communication is essential for success. The weight of the evidence here suggests that informal agreements on use of the IFIM were made in mid-1979 (Netch 1983).

Keeping all the parties informed was no mean feat. Contributing to the potential for confusion were the variety of issues involved and the fact that several different FWS staffers were responsible for the project (Trihey 1982; Baldrige 1982). Moreover, all this was conducted in a climate where State agencies and the legislature showed a keen interest in the project. The instream flow project director reports, however, that in spite of some "cumbersome times" these negotiations were fairly smooth (Wilson 1983).

Terrestrial Habitat Evaluation Procedures

The political environment that affected the instream flow studies also conditioned the progress of the terrestrial habitat studies. For example, the ADF&G was interested, but not actively involved, in the instream flow program (Arminski 1982). The ADF&G was more interested in the AEIDC's proposed bear studies. The AEIDC had hired Dick Hensel, a former manager of the Kodiak National Wildlife Refuge, to conduct these terrestrial investigations. Hensel proposed to do a traditional biological inventory (i.e., counting the number of bears, denning sites, and bear movement corridors).

Of the agencies which commented on the AEIDC report and plans, the FWS was the one recommending more extensive multiyear studies. The FWS methodology applicable to these biological studies was habitat-based: the Habitat Evaluation Procedures (HEP).¹⁸ HEP can be used to document the quality and quantity of available habitat for selected wildlife species. It can also be used to assess the impacts of proposed land use changes and evaluate the values of alternative mitigation measures. FERC paid close attention to the FWS recommendations, but insisted that the studies could be done in one field season (Crouse 1982). The request for multiyear studies fueled the KEA's opinion that they were just being delayed (Nease 1982). Even though the KEA lobbied against any additional studies on the basis of delay, FERC staff ruled that the KEA had to do the one-year studies.

While FERC staff can insist that certain information is necessary for the Commission to make an informal judgement, the Commission cannot force an applicant to use a particular methodology, such as HEP or IFIM. FERC staff can strongly recommend an approach or action that would help give a reasonable study design (Robinson 1982). Through such advocacy, they become more familiar with the facts and analyses needed to make the process work smoothly. FERC staff can then better use the review process to facilitate problem-solving.

The KEA finally decided to proceed with new studies to avoid an expensive, time-consuming hearing (Nease 1982). At this time, the KEA decided to bring environmental groups into the bargaining process to reduce the chances of later being challenged by parties outside the formal negotiations. This proved to be politically astute because delays due to late intervention from environmentalists, or others, were recognized as a threat which could increase

¹⁸Habitat Evaluation Procedures (HEP) are a technique for quantifying suitable or unsuitable habitat and assessing the value of habitat for selected evaluation species.

costs to the point of making the project economically infeasible (Kennedy 1982; Nease 1982).

A Summary of 1979

A review of events during 1979 demonstrates that the three dominant perceptions which characterized the beginning of the year carried over to the end. Fearing delay, the KEA agreed to studies which seemed to remove most of the technical sticking points. FERC staff was concerned that such an environmentally sensitive case might not receive the best determination in the hearing process; a result based on consensus was believed to be the best alternative (Azzaro 1983). Because of this, FERC staff did more than required by statutes to ensure communications and to mediate the conflict. The FWS held to their stance of Refuge nondegradation; they feared both the precedent of building on the Refuge and the political backlash from refusing to compromise. While the FWS did not want to negotiate over this project, compromise was necessary to avoid decisions in which FWS had taken no part.

In addition to political pressure for the FWS to negotiate, more subtle reasons involved the pending Alaska D-2 lands bill. The FWS apparently feared that if the Service actively came out against the Terror Lake project, it might lose the lands bill or at least portions of the lands bill to development interests who would be able to argue that Terror Lake was an example of bad results from locking up land in refuges and parks. Many sources speculated that this was the main reason Director Greenwalt made no decision on project compatibility with the Refuge. This threat of adverse legislation, plus pressure from Alaska Senators and Congressional staff, restricted the FWS options. As for all parties, a false step meant either the loss of important values or a law suit by environmental groups in which everyone might lose.

The final major event of 1979 was the first formal report on the study by the AEIDC. This study was submitted to FERC and distributed for comments to various agencies on 11 January 1980. The AEIDC report served as background for a meeting on 22 January 1980 in Washington, DC. The meeting was designed to impress upon the key agencies the need to provide necessary information to FERC's staff to try to resolve the compatibility issue (Crouse 1982).¹⁹ Basically, FERC staff felt that they could not go ahead with the EIS until additional information was gathered during the next field season (Crouse 1982). This was consistent with decisions reached the previous August, and is a good example of FERC staff determination to maintain the integrity of the process (Azzaro 1983).

¹⁹Wilson disagrees with this statement. He says: "This particular meeting was a formal scoping session, not a meeting to try to resolve the compatibility issue" (Wilson 1983).

THE HISTORY: 1980

In spite of the fact that the January 1980 meeting brought agreement on several issues which had been under discussion, many parties felt that it contributed little other than keeping communications open and reinforcing earlier agreements. The KEA did file a new scope of work to gather the information requested by FERC staff, and the January meeting in Washington allowed all agencies and interested parties to express their concerns to FERC staff about environmental impacts of the Terror Lake project. In summary, the meeting was part of the NEPA process which led to technical scoping sessions in Anchorage on February 13 and 14, 1980. These sessions were convened to formally identify the studies which needed to be done and agree on study methods (Robinson 1982; Wilson 1983).

Negotiation Strategies

The KEA was anxious that project success might be jeopardized by delays and the results of further studies (Kemppe 1980). Perhaps because of this concern over possible delays, the KEA asked the State of Alaska to officially intervene in the case, which it did on 11 February 1980 (Nease 1982). The KEA's primary emphasis was to bring all groups potentially affected by the project together to "cut a deal." The KEA wanted to actively involve the Governor, the Attorney General's office, the ADF&G, the APA, and the Department of Natural Resources (DNR) in order to protect itself on the question of mitigation (Kennedy 1982). Without the DNR's involvement, the KEA had little to offer in the way of money or access to mitigation lands. By involving the DNR, the Association was able to raise the question, "Can we use State lands?" The KEA thus attempted to use the Legislature's interest in, and favorable political climate toward, hydropower to obtain an affirmative response to that question from the DNR.

The APA was important to this project because of proposed legislation which would give the APA the responsibility for building projects of this type, instead of just funding them. There was a good deal of uncertainty during this period over which agency might eventually gain control of such projects. This uncertainty was concurrent with interagency discussions about conducting the studies and political pressure from Washington.

It was decided in February at the technical meetings that FERC would hold up the EIS until January 1981 so that all the instream flow studies could be completed (Robinson 1982). FERC staff believed that the terrestrial studies could be satisfactorily completed during this time. However, FWS staff were greatly concerned over potential terrestrial effects.

As the technical details were determined, the KEA attempted to analyze the negotiations in order to achieve an accurate understanding and to predict future events. The KEA focused on the primary drive behind each interest and group. In his analysis, Kennedy asked these questions: Why are the agencies doing this? What are their problems? This review enabled the KEA to isolate and understand each piece of the problem and deal with the appropriate individuals rather than try to solve the whole problem at once (Kennedy 1982).

The KEA was also learning to use the "deadline technique" (Kennedy 1982; Kemppe 1982; Nease 1982). To keep things moving, they tried to ask for work

products and agency reviews by specific dates. As the KEA staff began to manage the time frames of the process they were able to include more groups. In 1980 the KEA made a special effort to talk to the environmentalists in Alaska, wanting them to be a part of the agreement. The KEA seemed to realize that avoiding litigation meant private interests had to be satisfied as well as public agencies (Azzaro 1983). As a result, the environmentalists in Alaska were much less adamant in their opposition to the project than were the environmentalists in Washington, DC. That difference in advocacy became a problem for environmental groups.

Political Balance

By late 1980, project negotiations had become serious. The key turning point, according to Nease (1982), was the election of Ronald Reagan and subsequent increases in political pressures on the FWS. The passage of the D-2 lands bill in December 1980, and an increasing interest in the proposed giant Susitna River hydro development project were also subtly involved. For the first time, FWS personnel believed they might lose. The KEA came to the same conclusion: the KEA might win outright (Kemppe 1982). A delegation from the KEA went to Washington to talk to the new Assistant Secretary of Interior, who forwarded them to Bill Horn, Deputy Under Secretary of the Interior. Horn made the point that while the President and Secretary Watt were generally in favor of the project, they needed to have an Alaskan solution. The idea of an Alaskan solution was enriched by the high quality data, professional integrity of the analysts, and overall openness of the process (Azzaro 1983). The message from Washington was to comply with the laws and to negotiate an agreement (Horn 1982).

Shortly after these events, environmental groups officially applied to intervene in the process. Their intervention application of 17 March 1981 was designed to provide strong support for FWS positions (Hession 1982). FERC also received Congressional inquiries and citizen input asking that the Commission push the project forward. In another development of the new administration, the Deputy Under Secretary, Bill Horn, began communicating directly with the FWS Regional Director in Alaska instead of through channels.

These developments increased the importance of viable negotiations for all parties. The KEA could not achieve an outright political victory and the FWS could not afford to be reticent, although the environmentalists' petition was an impressive point in the FWS's favor. Each party seemed to sense that a political balance had been struck and the main objective at FERC was to keep the parties talking (Azzaro 1982). FERC staff and Kennedy of KEA shared this goal.

Terrestrial Impact Analyses

Concurrent with the coalescence of group interests was the completion of data collection and the data analysis upon which settlement negotiations could be based. In November 1980, the AEIDC published results of Hensel's additional bear studies. These studies identified primary and secondary impact zones of 45,630 and 125,310 acres, respectively. The primary impact zone was based on the ability of bears to see project features and activities within their normal home ranges and seasonal movements (Hensel 1982). The secondary impact zone was based on disturbances and habitat losses causing displacement of bears from

the primary impact zone and resultant overutilization of habitats and intra-species strife. The AEIDC study emphasized the numbers of bears and bear behavior rather than quantification of habitat or habitat suitability (Hensel 1982).²⁰

In early February of 1981 the FWS formally outlined to the KEA appropriate mitigation measures they planned to recommend to FERC based on the completed AEIDC terrestrial studies. These measures included placing an additional 50,000 acres under FWS refuge administration to offset unavoidable adverse impacts from the project. Since the AEIDC's observational approach proved difficult to use in quantifying impacts and assessing alternatives, the FWS's 50,000 acre recommendation was based on the size of the primary impact zone identified by the AEIDC. In response, the KEA agreed to discuss mitigation lands, but in the range of 14,000 acres, the size of the area to be permanently impacted by inundation, roads, the transmission corridor, and other project facilities.

Application of HEP

Within the Division of Ecological Services, the FWS realized the need to biologically justify recommendations for land acquisition. The 14,000 acres proposed by the KEA equaled the primary impact area within refuge boundaries only and was thus believed to be insufficient to satisfy FWS responsibilities under the Fish and Wildlife Coordination Act (FWCA). Moreover, as KEA pointed out, no consideration had been given to the weighted value of possible replacement habitat.

FWS personnel recognized that the Arctic Environmental Information and Data Center's traditional inventory analysis did not provide the necessary information for negotiation. Given the high probability that the FWS would be required to defend mitigation recommendations at a FERC hearing, a strong biological position attained by systematically quantifying required mitigation lands through the use of an established technique would be needed. While HEP had earlier been rejected by the AEIDC, the FWS Regional office directed the WAES to conduct an abbreviated evaluation using the AEIDC studies and habitat values established by the Delphi technique. In this way it was possible to quantify habitat values, project impacts, and thus, mitigation needs (Bayha 1982; Bowker 1982; Schreiner 1982).

By this time, the U.S. Fish and Wildlife Service was also looking forward to the immense Susitna Project. Perfecting methods such as the IFIM and HEP on Terror Lake would be an invaluable experience and record for the future. A particular concern was the type of land mitigation conditions which would be necessary. A part of this concern was a faction within Refuges which preferred

²⁰Wilson disagrees with this summary. He states: "At the outset of the terrestrial studies, AEIDC recognized that an estimation of bear numbers was an element of least relevancy and so the delineation (acreage determinations) of denning, feeding habitats, and location of movement routes were the foci of AEIDC's field study effort. In fact, WAES predicated their HEP analysis on habitat quantification findings of AEIDC" (Wilson 1983).

a one-to-one trade of land with suitable habitat, a view shared by many within the ADF&G (Stackhouse 1982). However, maintaining comparative habitat values was the major concern of ES. Although the KEA had suggested negotiating for replacement lands after licensing and during project construction, the FWS insisted that construction could not begin without a final agreement on mitigation lands.

Although HEP had been discussed as a potential analysis tool as early as 1 April 1980, there was now only a limited amount of time to complete the studies. Given the limited time and unique situation, i.e., there were several individuals with an in-depth knowledge of the specific study area and bear use, the FWS felt that an abbreviated version of the standard HEP methodology should be employed to quantify the project impacts and to evaluate mitigation recommendations. Application of the technique was intended to openly involve the concerned parties in the interest of achieving a mutually acceptable mitigation proposal and thus promote an Alaskan solution rather than a FERC ruling.

The FWS' abbreviated HEP analysis would be a result of the Habitat Suitability Index (HSI) values derived using the Delphi process (Rappoport 1982). This decision-making process depends on reaching a consensus among experts on species habitat relationships. The Terror Lake HEP analysis involved a group of five individuals who collectively had over 50 years of experience with Kodiak brown bears and/or the FWS Refuge system. Only one member of the Delphi group was in the FWS at the time, one was from the ADF&G, two were with the AEIDC, and one was, at that time, with the National Park Service. These five "bear experts" jointly quantified bear habitat by assigning a suitability index value between 0.0 and 1.0 to designated impact zones and time periods within which project impacts were expected to be homogenous. Impact zones identified in the AEIDC report were the basis for the evaluation because they were the best information available (Bowker 1982; Rappoport 1982). The group also used this procedure to assign habitat suitability index values to seven candidate mitigation tracts.

A later criticism was that the HEP analysis was incorrectly based on the AEIDC's biological study areas, not distinct habitat zones which could be expected to be delineated in a more detailed application of HEP. FWS personnel made extensive efforts to explain the HEP process to all concerned interest groups, but many individuals outside of the FWS either did not understand the principles behind the approach or viewed the process as subjective.²¹ While

²¹The Commissioner of the ADF&G states: "ADF&G's concerns over the use of the HEP procedure were based on the calculation of habitat value of specific replacement lands. It is our understanding that the value of that particular parcel of proposed replacement land depends upon development scenarios used by the HEP process. Some in ADF&G believed that the level of development assumed for these lands was not clearly stated. Consequently they concluded that the acreage of replacement land was not thoroughly justified" (Collinsworth 1983). It is worthy of note that some reviewers of this report have commented that the HEP process--as described above is "not a typical HEP application" (Soloman 1984).

they initially agreed with the procedures and principles behind the HEP analysis, some groups later disagreed with the conclusions, yet never specified reasons for their disagreement (Rappoport 1982). In the process of assigning suitability values to distinct areas of bear habitat, group members were able to reach a consensus and indicated that the Delphi sessions went well (Rappoport 1982; Stackhouse 1982). Some members of the Delphi group, however, felt they had been subjected to strain and pressure, and that it was a very subjective method (Hensel 1982). Some of this subjectivity might have been eliminated by using species suitability models for the area after the models had undergone validation testing. The time available, however, made this approach impractical (Soloman 1984).

By this time, the FWS's Mitigation Policy had been published (46 FR 15:7644-7663, 1981). The policy, which became the basis for the project mitigation goal set by the WAES, was clear: no net loss of in-kind habitat value. Designation criteria placed the Terror Lake project in Resource Category 2, "Habitat to be impacted is of high value for evaluation species and is relatively scarce or becoming scarce on a national basis or in the ecoregion section."

Sticking Points

By this time political pressure was mounting to set the deal. All the parties began to work for the most reasonable deal possible. Keith Bayha²² had been on the scene for several months actively participating in the HEP negotiations. He was gaining a good reputation for being sincere and straightforward. Even individuals who disagree with the outcome believed that Bayha's integrity was beyond question (Yould 1982). As a result of the political balance and the trust relationships which had begun to develop--based on personalities like Nease and Bayha--progress was made toward a reasonable deal. There were still a few "sticking points," however, which arose in discussions of the methodologies.

Bargaining with the Results of HEP

Only the FWS wanted to use the HEP analysis. Conflict developed between Hensel's proposed land trade (14,000 acres) and the HEP results which showed a need for 69,000 acres in the same area (Rappoport 1982)²³. As mentioned earlier, there has been a conflict on Kodiak for many years between cattle ranchers and the bears. Generally, bears do not pay much attention to fences, and ranchers have a tendency to shoot wandering bears once they cross into cattle grazing lands. The Shearwater Peninsula, which was suggested by Hensel for mitigation, was one of the areas that looked like it might be developed

²²Associate Regional Director, Environment, Alaska Regional Office, FWS.

²³The HEP analysis of the variation in habitat values and mitigation potentials of the seven alternative mitigation tracts originally considered by the bear experts showed that as few as 31,000 and as many as 314,000 acres were necessary to fully compensate for project losses (Rappoport 1983).

for cattle ranching. The ADF&G, in particular, desired to avoid this due to the inevitable loss of a number of bears. The argument over the lands shifted among several alternative mitigation measures, including a counter proposal from the KEA and Hensel of 21,000 acres. Caught in the middle was the Alaska Department of Natural Resources, which had tentatively selected the lands under ANILCA and would be the land manager. The problem was further confused because of land disposal plans in the area and involvement of existing Borough and Native corporation lands.

In effect, it was the KEA that facilitated the negotiations between the environmentalists, the FWS, and the ADF&G, on the one hand, and the DNR on the other. The KEA was prepared to mitigate losses with State lands on which the DNR wanted to have open development options. The ADF&G wanted to reduce or eliminate grazing on the Shearwater Peninsula. The FWS Regional Director determined that full compensation for Refuge losses would be required before the project would be compatible (Bayha 1983). The KEA bargained to keep these agencies talking, trying to reach a solution to the mitigation lands issue which would allow the project to proceed (Kemppel 1982; Nease 1982).

Bargaining with the Results of IFIM

In comparison, the instream flow question now seemed very simple. The state-of-the-art methodology for the studies had been agreed upon early in the negotiations, and the IFIM study had been carefully conducted. Aside from the allegations that costs for IFIM were higher than required, the studies were well managed. All interested persons were kept informed, and in general, the IFIM technology was well understood. Moreover, the methodology is specifically designed to aid negotiations so that results are in a format conducive to bargaining.

The issue with the instream flow studies was the exact flow regime requested. Even though the parties argued over the value of various flows, the bargaining was relatively easy because all the parties had a good idea of what the changes in the flows meant in terms of habitat loss or gain, and because there were no questions about the methodology itself. By discussing the value of incremental changes in flow an early agreement was reached on the project's operating regime (See Table 1).

Table 1. Instream flow operating regime Terror Lake Project.

Article 43.^a Licensee shall discharge from the Terror Lake Reservoir flows sufficient to ensure that the minimum stream flows near the mouth of the Terror River, as measured at the Terror River U.S. Geological Survey Gage No. 15295700, are not less than the following schedule of flows during reservoir filling, and thereafter during project operation:

<u>Period</u>	<u>Discharge (cfs)</u>
January - March	60
April	100
May - October	150
November 1-15	100
November 16-30	60
December	60

These flows may be temporarily modified if required by operating emergencies beyond the control of the Licensee, and for short periods for fishery management purposes upon mutual agreement between the Licensee and the Alaska Department of Fish and Game.

^aThis article citation refers to the FERC order issuing the license for the Terror Lake Project. Order issued 5 October 1981.

Land

With the methodology issues surrounding IFIM settled, the lands issue and the HEP analysis became the major points of contention. The environmental groups sought to make the strongest possible case for retaining as much land as possible under Refuge status. This was intended to bolster the FWS position as well as assure a favorable agreement. These tactics, however, occasionally were overextended (Schreiner 1982). One way to keep a coordinated approach was for the FWS to occasionally pull back in the meetings to show that the environmentalists had gone too far (Schreiner 1982). The environmental groups felt that the only reason the FWS was able to maintain any backbone, given the new administration, was because environmental groups took a firm stand on the project (Hession 1982; Cline 1982). One problem experienced by all parties in dealing with the environmental groups was that there did not seem to be an identifiable leader or a consistent view. This confused the environmental groups' positions (Nease 1982; Kennedy 1982). In the end, however, the environmental groups did bend the negotiations somewhat toward their viewpoints. For example, the bear trust fund and alternative studies were two things that probably would not have been in the agreements without the influence of the environmentalists (Weinburg 1982).

In the bargaining over land, the ADF&G was most concerned about the potential for grazing on mitigation lands. Ultimately, much of the agreement on land use rested on the KEA's success in having the DNR zone the lands on the Shearwater Peninsula for nongrazing (Nease 1982). This satisfied the ADF&G that the impacts of the project were being mitigated (Arminski 1982; Skoog 1982). Because of this, the ADF&G helped to mediate the issue. At this juncture, much of the mediation was accomplished by Bayha (FWS) and Sterling Eide (ADF&G) who extrapolated the habitat suitability for different alternatives based on the results of the Delphi group (Bayha 1983). Prohibiting grazing was a key to assuring that habitat suitabilities and mitigation potential of alternative tracts on the Shearwater Peninsula were achieved.

In taking this middle ground, the ADF&G wanted to see as much land as possible protected from grazing without stirring up a political fuss. The DNR had a much different viewpoint. As the agency which controlled the land to be used for mitigation, their goal was to minimize the amount of land that would be tied up in an inflexible administrative structure (Haynes 1982). There are a number of reasons for DNR's interest in Shearwater. These may be summarized by noting that the DNR felt the need to manage the land for a mix of wildlife habitat, borough lands, future human settlement, and mineral development (Haynes 1982). In addition, agriculture was an important issue, and on Kodiak this means cattle ranches. On the positive side, however, there were no grazing permits on the Shearwater at the time. Ultimately, the Borough agreed to restrict grazing on the lands in order to give the KEA a bargaining chip.

A key point for all the agencies was to hold the negotiations inside the State and to work out a deal that was an "Alaska solution." They strongly believed that if the negotiations were removed to Washington they would lose control (Bayha 1982; Haynes 1982); this consideration was also a motivation for FERC staff. The longer it took for an agreement the greater the danger that the agencies would lose control.

THE AGREEMENT: 1981

Finally, the lands question was resolved, in part, by the agencies accepting a counter proposal from the KEA for 28,000 acres at Kiliuda Bay which is contiguous to the Refuge. The State agreed to manage the land under the same guidelines as the wildlife refuge. It was also agreed that at least 50% of the Shearwater Peninsula was to be classified by the State as natural wildlife habitat where grazing was prohibited. In the lands agreement, the DNR succeeded in retaining their lands disposal program on the Shearwater Peninsula. This disposal program was limited to 200 five-acre parcels for recreational purposes.

This agreement was reached after Bayha diplomatically worked out specific points with each of the parties. When asked to interpret offers he often employed the HEP formulas to help explain the results (Bayha 1982). HEP became an important tool for evaluating each mitigation proposal. The parties struggled to reach an agreement in formal meetings and, in this way, the negotiations over land use were eventually successful.

The agreement which was finally reached on 16 June 1981 represents the fruits of these negotiations (Appendix A). The agreement was accepted by FERC without formal hearings. It covered the construction and operation of the project, instream flow issues, land mitigation, monitoring and follow-up studies and fisheries mitigation (Agreement of 16 June 1981). FERC issued the license on 5 October 1981.

A SUMMARY OF STRATEGIES

FERC

FERC was motivated in these negotiations by two considerations. First, the Commission staff was responding to the need to achieve a smooth process with an outcome which was supportive of energy development. Second, the Commission was cognizant of its charge to act as arbitrator of the public interest in these meetings. From this dual perspective the negotiations had to be fair, minimize rancor, mitigate and protect against environmental damage, and result in some kind of energy development project. From experience, the FERC staff working on this project knew that the issues involved in the Terror Lake project might have resulted in difficult hearings and litigation. Further, the FERC staff believed a more equitable solution could be found by negotiation rather than by formal adversary processes (Azzaro 1983).

To achieve these purposes, the FERC staff followed two strategies. On the one hand, they took advantage of every opportunity to keep the parties talking. For this reason, and because of the rules which governed the process, they had to head off any parties which tried to circumvent the negotiations; political end runs were discouraged. On the other hand, the Commission saw to it that both procedural and substantive issues were dealt with properly. For this reason Commission staff insisted on the fullest possible studies in the environmental assessment process and encouraged the parties to agree to robust technical assessments that produced information suitable for decisionmaking. This served to assure that competent data analysis helped build consensus. At the same time it helped resolve specific technical issues which would have made any litigation easier.

KEA

The Association was motivated, of course, by the need for the project and the fact that, as time elapsed, costs could escalate to make the project infeasible. The KEA pursued three major strategies in the negotiations. First, the Association employed a specialist in institutional affairs who used personal contacts to maintain political pressure in favor of the project. The KEA took every opportunity to circumvent what they believed were unreasonable road-blocks. The contribution of this strategy, however, was not to bring a quick victory. Rather, the attempts to get around administrative barriers were beneficial because each involved a combination of credible tactics. For example, political pressures to get past some hurdles resulted in the effective use of deadlines and coalition building among State agencies.

Second, the KEA promoted discussion instead of open confrontation--a course made easier by the urging of FERC staff. Using this approach, the KEA was able to analyze problems and determine where separate or interconnected discussions might be fruitful. The KEA leadership used their political skills to assess the motives and strategy of others. From this knowledge, they promoted the use of "back channels" (i.e., personal, informal relationships) to build trust relationships. This was particularly important in working with the FWS.

Third, the KEA pursued the project and its negotiations with dogged determination. The KEA--through Nease, Nease's staff, Kemppel, and Kennedy--was relentless in pursuing an agreement without resorting to the FERC hearings process. Without this dedication the project could have been tied up in litigation for years.

FWS

The original motivation of the FWS arose from two sources. The first of these was law and precedent. Refuges are considered by the FWS to be sacrosanct, with statute and policy giving the FWS strong management control over activities on any refuge. The Service believed it had the last word on this project, and that the precedent of building the project could have long-term effects. The second motivation was ideological; from this perspective it would be simply wrong to disturb wilderness habitat.

As far as strategies are concerned, the FWS in Alaska was placed in a position where it had to compromise on these original motivations. FWS personnel were forced to balance their desire to reject the project outright with the practical need for effective analysis of the potential effects of this project if it were to be built.

The FWS turned to the strategy of insuring that as much data as possible were collected on the effects of the project. The FWS understood the need for the project, and after it became apparent that the project would probably be built, the FWS pushed for habitat-based (state-of-the-art) assessment methods which would clearly document habitat losses which could be expected from the project. This effort was successful in the case of the IFIM largely due to FERC's early suggestion that the method be used and the early agreement to use it. The use of HEP was strongly advocated much later in the process, because in the expert judgment of FWS personnel it was not possible to quantify the extent of mitigation with the AEIDC report (Bayha 1983). Because of this, HEP was viewed as being dictated by FWS after AEIDC had already conducted an extensive analysis of the project's effect on bears.

The FWS's strategy in employing state-of-the-art habitat methods involved two concerns. One, the FWS had the need to mitigate the effects of the project so that it could be considered compatible with Refuge purposes. The FWS believed that with quantitative habitat-based methods it could best assess the affects of the project and suggest mitigation for those affects with adequate acreage. Two, the FWS wanted to establish the precedent for using habitat-based models for assessing the impacts of hydroelectric projects in Alaska. The FWS understood that only with such techniques was it possible to quantify

changes in habitat due to various project alternatives. These methods--when used properly--provide a great deal of valuable information and strengthen FWS bargaining skills.

Environmental Groups

The motivation which seems to best characterize the environmental groups is, of course, the need to preserve pristine areas. This was manifested, in this case, in terms of supporting and encouraging the FWS. The environmental groups felt that the FWS would "fold" on some important issues. They worked informally to keep the FWS aware of the expectations of environmental groups. Formally, they insisted on a high level of protection for the environment.

Because of this, the groups generally took stronger positions advocating environmental protection than the FWS in working toward mitigation plans. This effort was muted somewhat by the groups' relatively late start in the process and by their seeming inability to speak with one voice. Even so, the KEA worked hard to include the groups in the discussions, and meet the universal desire to achieve an "Alaskan solution."

While the strident tone of the environmental groups may have been frustrating to many parties, the tactic did allow the groups to act as a foil for the FWS. The Service was in a position to take advantage of any gains, but at the same time not be responsible for more extreme trial balloons. Moreover, the groups served a monitoring function. By looking in on the process from outside the agencies, the groups were able to question potential agreements which might have resulted in litigation, further conflict, or inadequate protection.

Alaska State Agencies

Department of Fish and Game

The ADF&G was primarily concerned with the fishery resources and the Kodiak brown bear. The Department supported the Terror Lake hydroelectric power project while vigorously pressing for mitigation measures. In this sense, the ADF&G was a buffer between the FWS and the DNR. The ADF&G believed that, as a State agency, it could lobby the DNR for concessions more successfully than could the FWS. The ADF&G actively supported FWS efforts at instream flow mitigation and was pleased at the lands settlement. In particular, the Department was pleased with the zoning of the Shearwater Peninsula for wildlife and no cattle grazing. As noted above, it is the interaction of agencies, such as the ADF&G, the DNR, and the FWS, with one another which makes the negotiation process work.

Department of Natural Resources

The DNR came into the negotiations after the bargaining focused on using State lands to mitigate for wildlife losses. The DNR was motivated by two concerns. First, the DNR believed that Kodiak needed the project, and desired to comply with the legislature's initiative to promote hydropower. Second, the DNR resisted the imposition of limitations on management options over the lands that it administered.

The DNR employed strategies supporting the KEA's efforts to have the Terror Lake Project approved while limiting the amount of DNR-administered State lands that would be used for mitigation. The DNR also wished to limit the number and effect of restrictions on the mitigation lands. Further, the DNR refused to drop its land disposal program on the Shearwater Peninsula. The DNR seems to have been working toward a precedent for future negotiations.

Alaska Power Authority

The role of the APA can be characterized as "interested observer." The APA was evolving from a funding agency to a construction and management agency. The legislature was in the process of passing the statutes necessary to complete this transformation. The APA anticipated responsibility for constructing projects similar to Terror Lake.

The APA's motivation in the negotiations was to limit the concessions that the KEA had to make, and provide support for the project. At the base of the APA's strategy was a desire to establish a precedent of limiting the number of concessions and extent of mitigation necessary to have projects approved in Alaska. Despite this interest, the APA was not actively involved. It is important to note that the APA observed this process because the APA now administers the Terror Lake Project and is negotiating for a FERC license on the Susitna River Project.

RECOMMENDATIONS

Technology Guidelines

The relative level of controversy which surrounded the use of the HEP and IFIM technologies points out two crucial facts in these negotiations. First, it is essential that, in choosing technologies, decisionmakers are kept informed regarding the study plan, costs, and the form which the recommendations will take. It is important for decisionmakers to understand the assumptions underlying these methodologies, the reasons for choosing a particular technique, and how the results are to be used.

In the Terror Lake case the basic outlines of the IFIM technology were agreed to early and understood by all parties, while the HEP technology came later in the negotiations, thus limiting the degree of mutual understanding. As a result, negotiations over the recommendations arising from the IFIM were fairly straightforward while the negotiations involving HEP were more rancorous and raised issues which would have been better addressed in early bargaining.

Second, the technology chosen should be appropriate to the problem at hand. The KEA, for example, first proposed using the Tenant Method for resolving instream flow questions. Suggesting this technique was a good opening gambit, but the Tenant Method is not suited to this type of decision because it does not allow assessment of alternative flows. The suggestion of the IFIM by FERC staff was a fortunate development because this method gave all the parties the opportunity to weigh trade-offs. Because FERC licensing processes are marked by bargaining, it is vital for all parties to be able to assess the impacts of incremental changes in project operations. The Tenant Method is a useful tool where no negotiation is involved, but other tools which can provide an assessment of alternatives are more useful in negotiated decisions.

Institutional Analysis²⁴

Institutional analysis can be divided into two processes: understanding agency perceptions and evaluating policies. The term "agency perceptions" refers to the way agencies view the process of negotiation, and "policy

²⁴Institutional analysis is the identification, description, and evaluation of legal and political actions and opportunities in a way that allows decisionmakers to choose from among competing strategies. For the decisionmaker, institutional analysis is the art of making correct choices. For the advisor and analyst it is "policy analysis" the art of describing and evaluating courses of action.

evaluation" refers to facilitating decisionmaking--choosing a course of action and helping others reach decisions.

Agency Perceptions

Understanding agency perceptions is a two-edged sword in bargaining. First, an agency needs to carefully assess its own mandates, positions, and relative influence. It is dangerous not to have an accurate understanding of one's own policies, resources, and skills. It is also dangerous to have a misperception about one's own influence. In the Terror Lake Project the FWS actually placed too much reliance on the sanctity of its Refuge--an overestimation of influence. It must, however, be recognized that the Refuge Division operates under strict mandates to preserve the Refuge. This required a tough negotiating stance on the Terror Lake project until a good mitigation plan was worked out. Of course, a strong opening move--such as the incompatibility report--is important in setting the boundaries of the bargaining, but too much reliance on such a tactic may mislead other actors or cause decision-makers to overreact.

Second, agencies need to assess the position, influence, and resources of other parties in a negotiation in order to predict behavior. The KEA was particularly skillful at this in the Terror Lake Project license negotiations. An essential consideration for any FERC license applicant is the development of this skill. Moreover, all the parties in such a complex undertaking need to be able to assess the background and strategies of their adversaries.

Policy Evaluation

The KEA hired a consultant who was adept at policy evaluation. For an agency or utility which anticipates proposing or responding to such licenses it seems evident that an established capability to analyze institutional processes would be beneficial. The licensing or permitting agency may also benefit from such a capability. In this case FERC staff proved to be adept at this type of institutional problem scoping.

In the Terror Lake case there was an obvious difference in performance between the KEA, which had the ability to do institutional analysis (i.e., understand agency perceptions and conduct policy evaluation), and the cooperating agencies. The difference was manifested in a more holistic view of the problem and a more coordinated response--including the ability to attack distinct issues in a way especially suited to the particular agency being addressed. Even when the KEA made errors, their skill at institutional analysis allowed for adjustments, fine-tuning and coordination of strategy.

There are a number of techniques available to agencies to help them perform these institutional analyses. In addition, many consultants offer such services, including the several environmental mediation/negotiation centers throughout the country. Professionals at these centers teach structured processes which agency personnel may learn to use.²⁵ The literature on

²⁵For example, the Cooperative Instream Flow Service Group offers training in a Legal and Institutional Affairs model. Use of this technique has been reported by Lamb (1980); and Olive (1981a), (1981b), and (1983).

public administration and conflict resolution is an excellent guide to these approaches.²⁶ The key point is that this analysis should be conducted by each party as soon as possible in the license application process.

Agreements

Even after this long history of negotiation, there is still misunderstanding as to what the actual agreements mean. Many seem to believe, particularly environmentalists, that more was agreed to than has been written in the license. There is little official record of any of the meetings. Meetings were frequent; goals were set; deadlines were established. There were many intermediate agreements for which there is no record other than the personal notations of a few individuals. Lack of such a record points out the need to establish at least informal notation of interim and "detail" agreements. It is also necessary, in such proceedings, to recheck points of agreement to ensure that all parties are truly in concurrence. By rechecking in this way, potential problems are identified before barriers to implementation are encountered.

Another factor which has surfaced as a problem in several similar negotiations is monitoring of agreements.²⁷ Once an agreement is reached, problems in implementation can be avoided or reduced if the parties have established a monitoring procedure as part of the settlement. Such a monitoring plan should include elements such as: 1) what is to be monitored, the purpose, and the format for operations; 2) who will conduct the monitoring activities, and when and to whom findings are to be reported; 3) who will pay for these activities; 4) who will review and has authority to take action on the monitor's data and recommendations; and 5) who will be responsible for funding and meeting deadlines for remedial action. These elements are missing from many negotiated settlements. Factors such as monitoring of settlement provisions and informal notation of interim agreements may seem unimportant and may even cause some rough spots during the bargaining. But ignoring these factors may cause severe problems after the fact.

Referee/Mediator

In the Terror Lake Project license proceedings, two parties took up facilitator roles. The KEA worked hard to keep the discussions moving, and FERC staff tried to manage the decision process. The KEA, however, cannot be thought of as a referee or mediator, because the utility was one of the contestants. FERC staff managed the referee's role fairly well.²⁸ This success

²⁶See for example: Journal of Conflict Resolution; Resolve; and The Environmental Professional.

²⁷See for example: Nelson, et al. (1976).

²⁸Work loads seem to fluctuate for the FERC staff so that at some times a great deal of time can be invested in a given project, while at others, staff must concentrate on covering only the essential elements of many projects.

derived from the ultimate arbitrator role the Commission must play which made the FERC staff legitimate in this role.

Under some circumstances FERC management of such a decision process may not succeed. For example, when the parties distrust FERC staff (due to pending litigation, or a history of controversy); the adversaries are more polarized; or FERC staff faces too large a case load to devote time to mediation. Under these circumstances it might be beneficial to employ a formal mediator from outside the involved parties.

Such a mediator should not be thought of as a decider-of-fact or as decisionmaker; that role must be reserved for the FERC. Rather, the mediator facilitates decisions in difficult situations. The mediator may help coordinate actions, funnel communications, monitor provisions of interim agreements, and suggest alternatives. The mediator must be non-partisan; in fact, mediation most often fails when one or another of the parties thinks of the mediator as favoring one position or outcome.²⁹

Based on these facts, it is obvious that a mediator cannot be imposed on a negotiation, even by FERC. Where there is concern to keep FERC divorced from a settlement process, however, a mediator might be valuable to all sides. In this case, FERC staff would be a party to the settlement but not function as the referee of the decision process.

Standard Operating Procedures

One question common to license applicants and cooperating agencies alike is what constitutes a typical licensing process. Based on little or no experience, utilities and agencies are bound to misinterpret or ignore important events. Mere procedural compliance is clearly not sufficient. Even worse, utilities which have experience with other licensing commissions may misinterpret FERC rules or staff intentions. It would be valuable, therefore, for FERC to publish a description of a typical project within each regulatory category. While not binding, applicants would know what to expect, and future applicants could learn from the experience of others.

Cooperating agencies would be well advised to take a similar approach. They should let the applicants know in advance what is typically expected. There would be many exceptions to the typical case, but a point of reference for applicants would ease tensions.

Most importantly, however, the agencies should have standard operating procedures which govern their response to applications. However, because such procedures often take on a life of their own, an agency should remain flexible in response to unique circumstances. The FWS Mitigation Policy is an excellent example of such a procedure--it is an invaluable guide and benchmark for negotiation. In addition, it helps the applicant assess the state-of-the-art in the appropriate management science, and lets them know what an agency expects.

²⁹For background see: Harter (1982).

Agency Contingency Plans

Land management agencies are especially susceptible to problems in negotiations when they have no contingency plans. A contingency plan means that managers and decision-makers have taken the time to describe alternative futures and to design responses to each foreseen circumstance. The results of this planning can be summarized and disseminated to potential applicants, or they can be used entirely in-house. The idea is that, with these plans, agencies will be prepared for responding to applications, natural changes, and changes in statutory mandate. Other agencies should also have contingency plans, but the dual problem of trust responsibility for land management and short response time for comments from cooperating agencies means contingency plans are essential.

The success of such a plan, however, is dependent on diligent, realistic planning. The effort must discount the wishes and desires of the planners and concentrate on real options for any set of circumstances. Realism in contingency planning is of paramount importance.

Contingency plans can help overcome any number of problems. For example, in the Terror Lake Project the issue of Federal Reserved Rights was not formally addressed.³⁰ This oversight could still prove to be a shortcoming in the future (Garner 1982). A good contingency plan would certainly have flagged this as a problem, and would suggest courses of remedial action. In addition, the FWS, with adequate planning, would have been in a better position to predict the outcome of its incompatibility report. Issues such as the FWS Director's likely response to such a report, the applicant's probable reaction, and important data needs for a compatibility assessment are useful topics for such plans.

Another area where contingency planning might help is in providing cooperating agencies with a chance to select appropriate contact persons for a range of problems. This would allow the agency to coordinate its responses, schedule activities, selectively use negotiation strategies, and avoid miscommunications with applicants and other cooperators.

Local Decisions

The shared perception of all parties in the Terror Lake Project that an "Alaskan Decision" would be better than an outside decision was an obvious benefit to the process. FERC staff should continue to encourage such a perception. There are occasions--as was the case in Terror Lake--when some agency will believe it necessary to appeal to a higher authority. These attempts are sometimes useful in that they promote more serious bargaining, but letting the decision process "get out of control" only reduces the certainty that can be achieved at the bargaining table. The key to encouraging local decision is the FERC staff.

³⁰For a discussion of Federal reserved rights see: Ranquist (1975).

Training

Several of those interviewed for this study indicated that the whole process would have been improved if individual personnel had been trained in negotiation techniques. This does not mean that employees should be trained in how to win. Rather, the training should focus on what to expect, how to plan and conduct negotiations and how to achieve an agreement.

Personalities

As must be apparent from the history and the discussion of these recommendations, individual personalities are an important ingredient in negotiations. A number of publications address this issue, but a few general rules can be gleaned from the Terror Lake Project (See White et al. 1980).

First, it is important to employ negotiators or spokesmen who have a broad view and are also familiar with the project. Second, negotiations are helped when the primary personnel are dedicated, forthright, hard-working and honest--the individual negotiators in this case are good examples. The honesty displayed by all the people in this case does not mean agreement in philosophy or ideology. Indeed, there were sharp differences among the parties, but all were dedicated to problem-solving. Third, negotiators should be skilled at interpersonal relations. It is important to have the ability and willingness to communicate effectively. Individuals should also be skilled in responding to criticism and advice. In short, negotiators should be problem solvers.

Tactics

Certain individuals such as Bayha, Schreiner, Crouse, and Nease were clearly influential in the success of the Terror Lake negotiations. To the extent that the behavior of these individuals--and others--can serve as a model, future negotiators will be well served. The combination of circumstance and personalities in the Terror Lake Project meant a positive fundamental shift from the normal course of business. There is a wide range of legitimate tactics available for agencies to use in these sessions. Several of these were successfully used in the Terror Lake Project. First, the KEA and others were very positive in the use of deadlines. The literature on negotiation reports, and observation of this case supports, the basic rule that deadlines tend to spur progress. Agencies in the Terror Lake case were able to effectively impose deadlines which kept the bargaining moving at a good pace. Setting deadlines is a matter of both skill and opportunity. The tactic requires a good sense of timing and skill at managing complex issues.

Second, the KEA employed the tactic of insisting on meeting with persons who were authorized to actually make decisions. Although this did not always work, this tactic encouraged decisionmaking by promoting the seriousness of the problem.

Third, agencies led by the KEA worked to divide the overall problem into several smaller, more manageable issues. This allowed staged discussion of discrete elements of the problem. There are two advantages to this tactic: 1) separate issues can be better understood and analyzed; and 2) initial agreement on minor issues can build a reservoir of good will, and a desire to successfully conclude the negotiation.

Fourth, agencies such as the FWS and groups such as the environmentalists used a tactic of switching from "good guy" negotiator to "bad guy" negotiator. This works when a negotiator is able to say, "If I agree to that point, my superior (or other negotiator) will insist on changes, or take me off the project." This tactic was used in the closing weeks of the Terror Lake Project as the parties sought to squeeze out the last concessions. This approach is often necessary to represent the true facts of a superior/subordinate relationship. The KEA tried to avoid this tactic by having the ultimate decision-makers as part of the discussions. At times the "good guy/bad guy" tactic may be contrived. At all times, however, care must be taken not to destroy the trust relationships which are an essential part of any settlement. A negative use of this tactic could scuttle the negotiation.

Fifth, one tactic to be avoided is negotiation by mail--this approach is often too threatening and it does not provide the immediate feedback necessary for effective planning. In short, it is not personal enough. Still, it is essential to also have formal communications to confirm agreements. It is even important to keep informal (but agreed to) notes of meetings so that points can be later rechecked. Negotiations by mail, however, are most often doomed to failure.

Sixth, a required negotiation tactic is for each party to determine bottom line positions. In the Terror Lake Project the agencies had a difficult time in making this determination. This was partly because some agencies had neither planned a negotiation strategy nor established a bottom line. Naturally, this made bargaining with the agencies frustrating because inadequate planning made them unsure and confused in their responses and proposals.

Seventh, it is important for an agency, or coalition of agencies, to choose a spokesperson. A single focus for bargaining solves many problems.

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GLOSSARY OF ACRONYMS

ADF&G - Alaska Department of Fish and Game

AEIDC - Arctic Environment Information and Data Center

ANCSA - Alaska Native Claims Settlement Act

ANILCA - Alaska National Interest Land Conservation Act

APA - Alaska Power Authority

BLM - U.S. Bureau of Land Management

CAR - Compatibility Assessment Report

CFC - Cooperative Finance Corporation

DEIS - Draft Environmental Impact Statement

DNR - Alaska Department of Natural Resources

DOI - U.S. Department of the Interior

EIS - Environmental Impact Statement

ES - Division of Ecological Services, Alaska Regional Office, FWS

FERC - Federal Energy Regulatory Commission

FERC Staff - Civil Service employees of the FERC

FPC - Federal Power Commission

FRED - Fisheries Resources Enhancement Division, Alaska Department of Fish and Game

FWS - U.S. Fish and Wildlife Services

FWCA - Fish and Wildlife Coordination Act

HEP - Habitat Evaluation Procedures

HSI - Habitat Suitability Index

IFIM - Instream Flow Incremental Methodology

NMFS - U.S. National Marine Fisheries Service

KEA - Kodiak Electric Association

REA - Rural Electrification Administration

Refuge - Kodiak National Wildlife Refuge

Refuges - Division of Refuges, Alaska, Regional Office, FWS

WAES - Western Alaska Ecological Services, an ES field station of the
Alaska Regional Office of FWS

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APPENDIX A

AGREEMENT AMONG KODIAK ELECTRIC ASSOCIATION, INC., THE DEPARTMENT OF THE INTERIOR, THE STATE OF ALASKA, THE SIERRA CLUB, THE NATIONAL AUDUBON SOCIETY, AND THE NATIONAL WILDLIFE FEDERATION RELATIVE TO TERROR LAKE PROJECT

On June 16, 1981 representatives of the parties to this agreement met in Juneau, Alaska, in the office of the Commissioner of Natural Resources, State of Alaska. On that date the parties made and entered into this agreement, with Keith D. Bayha, Assistant Regional Director for Environment, United States Fish and Wildlife Service, representing the United States Secretary of the Interior and Ronald O. Skoog, Commissioner of Fish and Game, and Geoffrey Haynes, Deputy Commissioner of Natural Resources, representing the State of Alaska.

THIS AGREEMENT is confirmed this 26th day of June, 1981, by, between and among Kodiak Electric Association, Inc. (KEA), the United States Department of the Interior (Interior), the State of Alaska (State), the Sierra Club (Sierra), the National Audubon Society (Audubon), and the National Wildlife Federation (NWF).

In explanation the parties recite the following:

- A. KEA has applied to the Federal Energy Regulatory Commission (FERC) for a license pursuant to the Federal Power Act, 16 U.S.C. Sec. 797, to construct and operate the Terror Lake Hydroelectric Project (Project No. 2743). Interior, the State, Sierra, Audubon and NWF are intervenors in the proceeding by which FERC is considering KEA's application.
- B. Project No. 2743 will be partially located on lands within the Kodiak National Wildlife Refuge, Alaska (Refuge).
- C. The construction of the Terror Lake Hydroelectric Project will be in the interest of the people of the State of Alaska.
- D. Construction and operation of Project No. 2743 will impact interests of State and Interior and will affect fish and wildlife resources and their habitats. Interior, State, KEA, Sierra, Audubon and NWF have differed as to the extent to which Project No. 2743 will have significant adverse effects upon

fish and wildlife resources and their habitat, as to appropriate mitigation measures, and as to jurisdictional matters.

- E. KEA, State, Interior, Sierra, Audubon and NWF desire to settle all of their outstanding differences. Interior and State, in order to facilitate settlement and to achieve mutual objectives of conservation and management of fish and wildlife resources within their respective jurisdictions, are willing to enter into a cooperative agreement for the protection of Kodiak brown bear and other wildlife species.

NOW THEREFORE, the parties hereto agree as follows:

1. Replacement Habitat

In recognition of the need to mitigate adverse environmental effects of the project, the State of Alaska Departments of Natural Resources and of Fish and Game, and the United States Department of the Interior, Fish and Wildlife Service, have entered into a Cooperative Management Agreement, a copy of which is attached hereto as Attachment I and incorporated herein by reference.

2. Height of Dam

2.01 To the end of minimizing adverse construction impacts and facilitating the maintenance of instream flows in salmon spawning habitat in the Terror River, KEA will, as a part of the original construction of Terror Lake Dam, provide increased storage capacity in Terror Lake Reservoir. The increased capacity will be that ordered by FERC based upon the Instream Flow Mitigation Plan, the discussion contained in Paragraph 5.8 of the DEIS (attached as II-A to Attachment II), and further engineering studies currently being conducted by KEA and which will be filed with FERC, and the intervenors will not object to such construction.

2.02 The Instream Flow Mitigation Plan, attached hereto as Attachment II and incorporated herein by reference, will be incorporated into the project license as a license condition and it is so recommended to FERC.

3. Mitigation

3.01 The mitigation measures provided for in this agreement (a) satisfy all requirements imposed by or pursuant to applicable federal law for the mitigation of any and all adverse effects of Project No. 2743 on fish and wildlife resources and their habitats; and (b) constitute the conditions prescribed by the Secretary of the Interior pursuant to Section 4(e) of the Federal Power Act [16 U.S.C. Sec. 797(e)] as necessary for the adequate protection and utilization of the Refuge.

3.02 This agreement satisfies any and all applicable requirements of the Fish and Wildlife Coordination Act (16 U.S.C. Sec. 661), the National Wildlife Refuge Systems Administration Act (16 U.S.C. Sec. 668dd), the Federal Land Policy and Management Act (43 U.S.C. Sec. 1701) and of the first proviso in Section 4(e) of the Federal Power Act [16 U.S.C. Sec. 797(e)].

3.03 No party will challenge the adequacy of the Final Environmental Impact Statement on any of the grounds settled by this agreement nor attempt to impose upon KEA in respect of Project No. 2743 any requirement in addition to those imposed by this agreement and the license issued by FERC. However, nothing herein shall prevent the State from discharging any of its responsibilities under State laws or regulations or preclude a party from petitioning FERC to enforce or interpret any provisions of the license.

3.04 The parties understand that the Kodiak Island Borough will agree to prohibit grazing on any Borough lands in the area covered by the Cooperative Management Agreement (Attachment I). This agreement is contingent upon the enactment of Borough regulations to that effect.

4. Miscellaneous Provisions

4.01 KEA, Sierra, Audubon and NWF will jointly recommend to the Alaska Legislature that it enact legislation to authorize, and to provide adequate funding for, a Kodiak Island alternate energy study.

4.02 KEA, as soon as practicable, will establish a trust fund with a capital contribution of \$500,000 for the purpose of funding, out of net income from the trust fund, programs approved by the trustees of the fund for Kodiak brown bear research and other activities, including acquisition of land or rights therein, determined by the trustees of the fund to be of benefit to the Kodiak brown bear. The trustees shall be governed by the following:

a. There shall be four trustees, one to be named by KEA; one to be named jointly by the Sierra Club Legal Defense Fund, Inc., Audubon and NWF; one to be named by the Governor of Alaska; and one to be named by the Regional Director of the U.S. Fish and Wildlife Service unless otherwise prohibited by law.

b. The trust must be so established as to qualify and function as an entity exempt from federal income tax under the Internal Revenue Code of 1954, as amended.

c. The principal of the trust must not be invaded except by the unanimous vote of the trustees and subject to other limitations to be provided in the trust declaration.

d. KEA shall consult with the other parties hereto in preparing the trust declaration.

4.03 In order to minimize bear-human conflict and otherwise to avoid adverse impact on the Kodiak brown bear and its habitat, the parties agree that no recreation facilities should be required in the license and so recommend to FERC.

4.04 The stipulations set out in Attachment III (attached hereto and incorporated herein by reference) will be incorporated into the license and so recommend to FERC.

5. Effectuation of Settlement

5.01 This agreement and the Offer of Settlement referred to in Paragraph 5.02, when approved by FERC, settles and adjusts all disputes between and among any and all of the parties relative to the Terror Lake Hydroelectric Project.

It does not constitute a waiver of the position of any of the parties with respect to Mt. Glottof, Hidden Basin or Uganik diversions or any other project, proposal or circumstance; nor does it constitute approval or precedent for application of the provisions of this agreement, or of any matter dealt with herein, to any other project, proposal or circumstance.

5.02 This agreement constitutes a stipulated Offer of Settlement executed by Interior, KEA, the State, Sierra, Audubon and NWF to be filed with FERC as provided in 18 C.F.R. Sec. 1.18 as an Offer of Settlement in the license proceedings now pending for Project No. 2743. Each party withdraws any objection to issuance of a license for Project No. 2743 to KEA conforming to the Offer of Settlement.

5.03 This agreement terminates and is of no force and effect if FERC fails to approve the Offer of Settlement referred to in Paragraph 5.02 or in the event that FERC rejects KEA's application for license and the rejection becomes final.

6. Section Headings

Section headings are intended for reference purposes only and form no substantive part of, nor do they interpret, any provision of this agreement.

IN WITNESS WHEREOF, the parties hereto have executed this agreement as of the day and year first above written.

ATTEST:

THE DEPARTMENT OF THE INTERIOR

By: _____

ATTEST:

THE STATE OF ALASKA

By: _____

ATTEST:

KODIAK ELECTRIC ASSOCIATION, INC.

By: _____

ATTEST:

THE SIERRA CLUB

By: _____

ATTEST:

THE NATIONAL AUDUBON SOCIETY

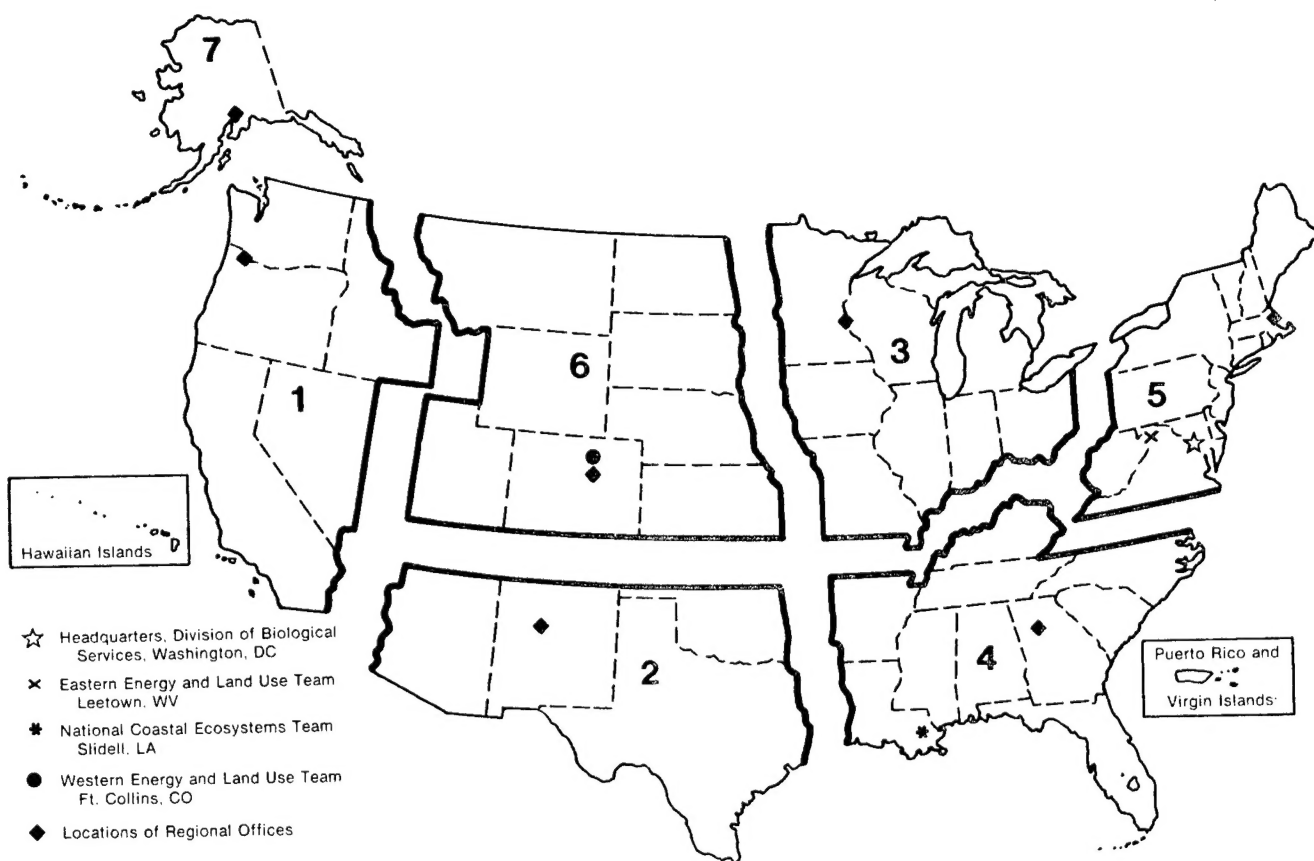
By: _____

ATTEST:

THE NATIONAL WILDLIFE FEDERATION

By: _____

REPORT DOCUMENTATION PAGE	1. REPORT NO. FWS/OBS-84/08	2.	3. Recipient's Accession No.
4. Title and Subtitle Conducting a FERC environmental assessment: A case study and recommendations from the Terror Lake Project.		5. Report Date April 1984	
		6.	
7. Author(s) Stewart W. Olive and Berton L. Lamb		8. Performing Organization Rept. No.	
9. Performing Organization Name and Address Western Energy and Land Use Team U.S. Fish and Wildlife Service 2627 Redwing Road Fort Collins, CO 80526-2899		10. Project/Task/Work Unit No.	
		11. Contract(C) or Grant(G) No. (C) (G)	
12. Sponsoring Organization Name and Address Western Energy and Land Use Team Division of Biological Services Research and Development Fish and Wildlife Service U.S. Department of the Interior Washington, DC 20240		13. Type of Report & Period Covered	
		14.	
15. Supplementary Notes			
16. Abstract (Limit: 200 words) This paper is an account of the process that evolved during acquisition of the license to operate the Terror Lake hydroelectric power project under the auspices of the Federal Energy Regulatory Commission (FERC). The Terror River, the project site, is located on Kodiak Island in Alaska. The main controversy requiring negotiation stemmed from the fact that the intended development area was within the boundaries of the Kodiak National Wildlife Refuge. Conflicting views about potential impacts of the project, especially on fish, wildlife, and instream flows, were ultimately reconciled through interagency negotiations. Included is a detailed account of the events which constituted the negotiations, and suggestions for strategies in future FERC licensing efforts.			
17. Document Analysis a. Descriptors Hydroelectric power generation Negotiations Licenses Stream flow b. Identifiers/Open-Ended Terms Federal Energy Regulatory Commission Terror River Kodiak Island Instream flow c. COSATI Field/Group			
18. Availability Statement Release unlimited		19. Security Class (This Report) Unclassified	21. No. of Pages 62
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REGION 1

Regional Director
U.S. Fish and Wildlife Service
Lloyd Five Hundred Building, Suite 1692
500 N.E. Multnomah Street
Portland, Oregon 97232

REGION 2

Regional Director
U.S. Fish and Wildlife Service
P.O. Box 1306
Albuquerque, New Mexico 87103

REGION 3

Regional Director
U.S. Fish and Wildlife Service
Federal Building, Fort Snelling
Twin Cities, Minnesota 55111

REGION 4

Regional Director
U.S. Fish and Wildlife Service
Richard B. Russell Building
75 Spring Street, S.W.
Atlanta, Georgia 30303

REGION 5

Regional Director
U.S. Fish and Wildlife Service
One Gateway Center
Newton Corner, Massachusetts 02158

REGION 6

Regional Director
U.S. Fish and Wildlife Service
P.O. Box 25486
Denver Federal Center
Denver, Colorado 80225

REGION 7

Regional Director
U.S. Fish and Wildlife Service
1011 E. Tudor Road
Anchorage, Alaska 99503



DEPARTMENT OF THE INTERIOR

U.S. FISH AND WILDLIFE SERVICE



As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interests of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.